S. Hrg. 578, Vol. III

CONCURRENT RESOLUTION ON THE BUDGET FOR FISCAL YEAR 1989

HEARINGS

BEFORE THE

COMMITTEE ON THE BUDGET UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

HUMAN RESOURCES

MARCH 17, 1988—FINANCING LONG-TERM CARE SERVICES FOR THE ELDERLY

MARCH 24, 1988—SOCIAL SECURITY, DEFICITS, AND THE BABY BOOMERS' RETIREMENT

AGRICULTURE

MARCH 24, 1988—RURAL DEVELOPMENT

SCIENCE AND TECHNOLOGY POLICY

MARCH 16, 1988

Volume III of III

Printed for the use of the Committee on the Budget

U.S. GOVERNMENT PRINTING OFFICE
85-029 WASHINGTON : 1988

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

S251-6

85-029 - 88 - 1

COMMITTEE ON THE BUDGET

LAWTON CHILES, Florida, *Chairman*

ERNEST F. HOLLINGS, South Carolina
J. BENNETT JOHNSTON, Louisiana
JIM SASSER, Tennessee
DONALD W. RIEGLE, Jr., Michigan
J. JAMES EXON, Nebraska
FRANK R. LAUTENBERG, New Jersey
PAUL SIMON, Illinois
TERRY SANFORD, North Carolina
TIMOTHY E. WIRTH, Colorado
WYCHE FOWLER, Jr., Georgia
KENT CONRAD, North Dakota
CHRISTOPHER J. DODD, Connecticut

PETE V. DOMENICI, New Mexico
WILLIAM L. ARMSTRONG, Colorado
NANCY LANDON KASSEBAUM, Kansas
RUDY BOSCHWITZ, Minnesota
STEVEN D. SYMMS, Idaho
CHARLES E. GRASSLEY, Iowa
ROBERT W. KASTEN, Jr., Wisconsin
DAN QUAYLE, Indiana
JOHN C. DANFORTH, Missouri
DON NICKLES, Oklahoma
WARREN B. RUDMAN, New Hampshire

Richard N. Brandon, *Staff Director*
G. William Hoagland, *Minority Staff Director*
W. Thomas Foxwell, *Director of Publications*

CONTENTS

HEARINGS

Page
March 16, 1988—Science and Technology Policy ... 283
March 17, 1988—Financing Long-Term Care Services for the Elderly ... 1
March 24, 1988—Social Security, Deficits, and the Baby Boomers' Retirement ... 85
March 24, 1988—Rural Development ... 161

STATEMENTS BY COMMITTEE MEMBERS

Chairman Chiles ... 1, 85, 161, 283
Senator Domenici ... 4, 170, 287
Senator Exon ... 6
Senator Sanford ... 87, 166
Senator Sasser ... 6
Senator Simon ... 7

WITNESSES

Bergland, Robert, Executive Vice President, National Rural Electric Cooperative Association ... 172
Bosworth, Dr. Barry P., Senior Fellow, Brookings Institution ... 87
Bourgue, Daniel P., Senior Vice President, Voluntary Hospitals of America, and Chairman, Task Force on Long-Term Care Policies; accompanied by Dennis DeWitt, Consultant, Foster Higgins, and former Executive Director, Task Force on Long-Term Care Policies ... 28
Branscomb, Dr. Lewis M., Director, Science, Technology and Public Policy Program, John F. Kennedy School of Government, Harvard University, Cambridge, MA ... 294
Buchsbaum, Dr. S.J., Executive Vice President, AT&T Bell Laboratories ... 299
Jordan, Lt. Gov. Bob, State of North Carolina ... 184
Koepke, Dr. Gene, Dean, School of Business and Technology, Kearney State College, Kearney, NE ... 211
Matula, Barbara, Director, North Carolina Division of Medical Assistance ... 13
Myers, Robert J., former Chief Actuary, Social Security Administration and former Executive Director, National Commission on Social Security Reform. 132
Omenn, Dr. Gilbert S., M.D., Ph. D., Professor of Medicine (Medical Genetics) and of Environmental Health, and Dean, School of Public Health, University of Washington, Seattle, WA ... 302
Palmer, Dr. John L., Senior Fellow, The Urban Institute ... 105
Rivlin, Dr. Alice M. and Dr. Joshua M. Wiener, Senior Fellows, Economic Studies Program, The Brookings Institution ... 8
Tweeten, Dr. Luther, Anderson Professor of Agricultural Marketing, Policy, and Trade, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, OH ... 196
Wiener, Dr. Joshua M. and Dr. Alice M. Rivlin, Senior Fellows, Economic Studies Program, The Brookings Institution ... 8

ADDITIONAL MATERIAL

Questions and Answers—Committee members to witnesses, written:

  Mr. Bergland ... 271
  Dr. Branscomb ... 342
  Lieutenant Governor Jordan ... 273
  Dr. Koepke ... 274

Page

Questions and Answers—Committee members to witnesses, written—Continued

Dr. Omenn 342

Statements:

Central Banks for Cooperatives 275

Health Insurance Association of America 73

FINANCING LONG-TERM CARE SERVICES FOR THE ELDERLY

THURSDAY, MARCH 17, 1988

U.S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 2:39 p.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Exon, Simon, Sanford, Conrad, Domenici, Kassebaum, and Nickels.

Staff present: Richard N. Brandon, staff director; and Kathy Deignan, group leader for human resources.

For the minority: G. William Hoagland, staff director; and Jeff Sanders, senior analyst for social security, medicare and health.

OPENING STATEMENT OF CHAIRMAN CHILES

Chairman CHILES. As we begin our hearing on long-term care, other Members of Congress are beginning a conference on a new medicare catastrophic health insurance benefit.

We are about to take the big step of providing catastrophic coverage for the acute health care expenses of the elderly. But the debate on long-term care, the single largest catastrophic expense for the elderly and many others, is just beginning.

In 1985, the Nation spent $45 billion on long-term care, nursing home, home health, and other care for the chronically ill. Almost half of that bill, 45 percent, comes directly out of the pockets of long-term care patients.

Forty percent of the total bill is paid through the Federal-State medicaid programs.

These two figures pretty much describe our present, national long-term care policy. Patients shoulder as much of the long-term care cost burden as they possibly can, and after all the resources are exhausted, medicaid picks up the remainder of the tab.

In the meantime, study after study has shown that many individuals in need of supportive long-term care services are not receiving them. The population of those in need of long-term care is rapidly rising.

Medical cost increases show no sign of abating. Elderly incomes will rise, but not fast enough to keep up with the increase in long-term care costs, and more support will be needed for patients.

On average, States spend 43 percent of their total medicaid budgets on long-term care. But the money goes to only 7 percent of the total medicaid recipient population. As long-term care expenses rise, fewer resources are available for other needy groups, such as pregnant women and children. More help is going to be needed for States.

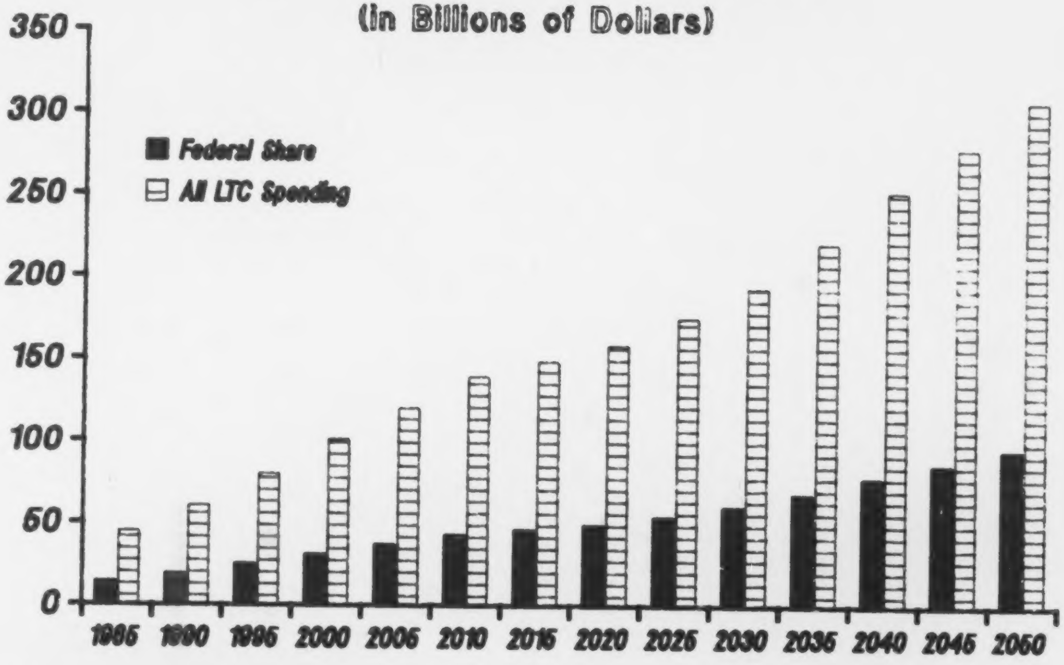
We can't ignore these facts. More support for long-term care seems inevitable. Private insurance can play a role, but I think our witnesses today will tell us, it will never be more than a small role.

More Federal support seems inevitable, but the amount of support needed is daunting, and finding ways to finance it will be a supreme challenge.

The chart we have here, based on CBO projections, shows the potential growth in total long-term care expenditures, public and private, and just under our current policy, expressed in 1985 constant dollars. The Nation spent $45 billion in 1985, and the Federal share of that was about $14 billion.

Potential Growth in National Spending on Long Term Health Care

(in Billions of Dollars)



Note: In Constant 1985 Dollars

Source: CBO Testimony, October 1, 1987

Without any change in our current policy, the total expenditure will be as high as $80 billion by 1995, with the Federal share $26 billion.

When the baby boomers start reaching long-term care age, between 2025 and 2030, we are getting up into $175 billion a year, with a Federal share leaping to $56 billion.

I should mention that some would say these projections are somewhat conservative. This is like a midline projection, taking into account demographic changes and medical care prices only.

It does not include increases in intensity—higher priced, more intensive care—as medical technology increases. It does not take into account pressures that will be brought on the long-term care system by the increase number of AIDS patients.

But even so, the numbers are huge, and we have not yet figured a way to pay for these current policy increases, just assuming that the Federal share remains at a constant 32 percent of total long-term care costs.

We also know what happens when the Federal share goes up, usually the overall costs go up tremendously too. If we include long-term care coverage under medicare, as is now being proposed in several bills, that Federal proportion will go up, and we would be talking about way more than $150 billion a year by 2030.

Even in the short range we are looking at estimates of new Federal spending of between $20 to $50 billion a year just for long-term care.

I hope this hearing will serve to focus us on this immense problem. It is not too early, indeed it is late, for us to begin examining what financing options we have.

We want to welcome Dr. Alice Rivlin and Dr. Josh Wiener, senior fellows at the Brookings Institution. They just completed a study on long-term care financing options with a focus on the role of private insurance.

Barbara Matula is the North Carolina Medicaid Director, and can tell us of the pressures at the State level, how States have tried to deal with this problem.

I know Barbara and her grasp of State medicaid issues well. She serves on the National Commission To Prevent Infant Mortality.

Mr. Daniel Borque and Mr. Dennis DeWitt are chairman and executive director of the administration's task force on long-term health care policies. They can discuss their study and present task force recommendations.

Senator Domenici.

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Well, Mr. Chairman, let me join you in adding my thanks to the distinguished panel of witnesses.

Obviously, long-term health care costs now bankrupt many of our Nation's elderly, and many others who have disabilities or chronic illness are clearly in jeopardy.

Our purpose today is to explore the issue of long-term care and alternatives to pay for that care.

We spend about $50 billion each year on medical rehabilitative and supportive services, given persons who are functionally disabled or chronically ill. Long-term health care is provided in nursing homes, or adult day-care centers, or in the homes.

About half of these costs are financed publicly; the other half by individuals without insurance. And most of the public share comes from medicaid. So it helps only those who are very poor, or those who have used up their life savings on long-term health care.

Many of our senior citizens are very much misled today. They assume that either medicare or medicaid will take care of long-term nursing needs, and obviously, that isn't the case.

As for medicaid, a person has to qualify by being in poverty. Medicare doesn't pay for these services, nor would either of the catastrophic health plans that are moving through Congress. Yet there is a misconception out there.

I join with the chairman in just talking about the numbers, and being extremely concerned about how we are ever going to find a way to pay for it.

There are many suggestions. But clearly, when we look out there at working men and women—and I would note that some think that it is going to come out of some kind of payroll tax add-on and be easily accomplished--it is a very difficult situation today in terms of the percentage of the take-home pay that is going to the current trust accounts.

So I am here to listen. I do not think this is a 1989 problem. Nor do I think, as the chairman thinks, that it will not fit in any budget now.

But clearly, we have to start thinking about it, and the sooner the better. That is what we are doing.

And thank you, Mr. Chairman, for having the meeting, and I look forward to the testimony.

Chairman Chiles. Thank you. I think Senator Sanford wanted to have a word to say about one of our witnesses today.

Senator Sanford. I am pleased that North Carolina is sharing Barbara Matula with us here today to discuss long-term care from a State perspective. Senator Chiles, I know that you and others on this committee know her for the outstanding job she has been doing in North Carolina, as well as for her contributions to the advancement of good, sound health policy at the national level.

What you may not know about Barbara Matula is that she began her work with North Carolina's medicaid program in the State budget office. Governor hunt had the foresight to appoint her as director of the medicaid program, and Governor Martin has been lucky to keep her there.

Barbara has been extremely effective over the years in helping Congress hold down health care cost increases through sound policy changes rather than cost shifts to States that have been repeatedly recommended by this administration.

Barbara is no stranger to Congress. Having testified many times before the Senate Finance Committee, she has gained the respect of both Republicans and Democrats.

Barbara, we are pleased to have you here today as part of this distinguished panel, and I look forward to your testimony.

Chairman Chiles. Senator Sasser had an opening remark.

OPENING STATEMENT OF SENATOR SASSER

Senator **Sasser**. First, Mr. Chairman, I want to commend you for convening these hearings today, and getting this distinguished panel to appear before us, including our former director of the Congressional Budget Office who did such a marvelous job during her tenure here, Dr. Rivlin.

And I want to commend Dr. Rivlin and Dr. Wiener for the work that they have done. The comments that I think we are going to hear from them today—I peeked at their testimony in advance—sense the central dilemma in the debate over long-term care.

And that is, that private sector long-term care policies, which can, and I hope will, play a large role in providing health care for our elderly, will never be able to handle the entire long-term care burden.

Many factors, including the aging of America's population, which is aging now by a geometric ratio, as far as the very elderly is concerned, and the rising cost of medicare, all contribute, I think, Mr. Chairman, to the inevitability of the need that long-term care coverage will expand.

Now, the question before all of us here in the Congress, and before us as a country, is finding the most cost-effective means of effectively handling the burden of long-term care.

I have introduced legislation that deals with this problem through an expansion of medicare. Quite frankly, my proposal goes further, addressing the problem of long-term care, than the acute care catastrophic health legislation that is now in conference after having passed both Houses.

But Mr. Chairman, I have been around the U.S. Senate long enough to be a realist. I realize that a bill of the scope that I am sponsoring is not likely to pass this Congress.

With that thought in mind, I have been exploring other means of addressing the issue of long-term care, and I expect today that we are going to get some very good counsel and advice and observation from this very distinguished panel.

And again, I want to express my appreciation to the chairman and the ranking member for convening this hearing.

Chairman **Chiles**. We thank you. Governor, do you feel called upon to make a few remarks now?

OPENING STATEMENT OF SENATOR EXON

Senator **Exon**. Thank you very much, Mr. Chairman. I want to welcome the panel here.

I have been looking forward for a long time to this particular hearing. Because what we have been hearing people say for the last year and a half is, let us try and get a handle for how big the problem is, what the scope of it is. And we have been waiting for some studies.

And I think the study that we are going to hear about today will hopefully serve as the basis for finally doing something in the Congress.

This is a problem of such a large magnitude in the United States that I think the Congress has been delinquent in not focusing on it previously.

But as my colleagues have said, there are a lot of reasons that that has not happened. And the main legitimate reason, as far as I am concerned, is that we have not had a legitimate study that we could use as the basis for doing something.

I happen to serve on the Armed Services Committee, and am very much concerned about the national defense of the United States of America. But somehow, I get uneasy when I support such things as the Strategic Defense Initiative, which, if it ever goes anywhere near what it is purported to be able to do, it is going to be in the area of hundreds of billions of dollars, and while that is of concern to many, they say, well, if we need it, we are going to have to have it.

And while I agree generally with that statement, I feel uneasy about going ahead with something like that, if we cannot do something as basic as what I think this problem is, even with the expense that is going to come about.

So I would simply echo the words of my colleagues for coming here today. I think this has been one of the most important hearings that we are going to hold for a long, long time on the Budget Committee.

And I hope that we can use the information that we are getting today as the basis, at least, of some combination of private, government, possibly tax incentives, an overall package of some kind that we can present.

And I think once we do this, regardless of the cost, we are going to have overwhelming support for it in the Congress.

I thank you for coming.

Chairman CHILES. Well, in addition to our distinguished panelists this afternoon, we are also delighted to have with us Paul Simon, the president of Illinois.

Paul, we are glad to have you with us again. You sort of took us by surprise. In fact, we just had to take down Governor Cuomo's nameplate so you would have room there.

My schedule tells me you would make your opening statements around 4:45, but as one of those potential superdelegates, I am happy to have you go ahead and make me an offer now.

Senator SIMON. Well, since you are retiring from the Senate, I am really free to make a variety of offers here, Mr. Chairman.

But if I may just take 5 minutes here, or I do not know what we are limited to in opening statements, 3 minutes, all right?

Chairman CHILES. We usually do not have them, but we are allowing them today.

OPENING STATEMENT OF SENATOR SIMON

Senator SIMON. All right. Let me just underscore, I heard my colleague from Nebraska talking about the importance of this issue. It really is, and I see it as I move around the country. I see families devastated.

And as you look at those demographic factors, it is just going to be exploding on us. There is a lot of good news in this country; we are living longer. But there is some bad news that goes with it in terms of cost.

And we are going to have to—it seems to me there are two things. One is long-term at-home care. Congressman Pepper is chief sponsor of a bill in the House, I am the chief sponsor in the Senate.

And then the other is the residential care, which is really not looked at in any legislation that I am aware of. And we have to be honest with the American public that it is going to cost us money.

It is going to cost us a lot more if we do not. The at-home care, at least about 30 percent—experts here can correct this—but about 30 percent of those who are in nursing homes do not really need to be in nursing homes, if there was a good at-home care program.

And the bill that Congressman Pepper and I have would provide up to two-thirds of the cost of nursing home care in at-home services.

In the residential care, that gets more costly. And I think we basically face a choice of ½ percent increase in social security, or taking the cap off of social security, or a series of sin taxes on cigarettes and liquor. Those are our basic choices.

And I heard Senator Exon say, the American people are ready to move. I think they are. I think they understand that you cannot get something for nothing.

I think if we present a positive program that protects our parents and grandparents much more effectively, we are going to be a better, more humane Nation.

I do not know if I violated the rules there, Mr. Chairman, by saying that or not. But I thank you.

Chairman CHILES. Thank you. Alice, we are delighted to have you here. You have testified many, many times to this committee, certainly in your capacity as director of CBO. We might talk to you about trying to come back there, as we are trying to fill that directorship again.

We welcome you to the committee.

STATEMENT OF DR. ALICE M. RIVLIN AND DR. JOSHUA M. WIENER, SENIOR FELLOWS, ECONOMIC STUDIES PROGRAM, THE BROOKINGS INSTITUTION

Dr. RIVLIN. Thank you very much, Mr. Chairman. I am delighted to be back here with my colleague from Brookings, Joshua Wiener. This is very much a joint study. I am going to do the easy part of reading the testimony, and he is going to do the hard part of helping to answer the questions.

We are very pleased to be able to participate in this hearing on what we believe to be one of the most important budget issues facing the American people: What role should the Federal Government play in financing the long-term care for the disabled elderly?

More and more Americans are living past 75, past 85, even past 95. This means that in addition to acute illness requiring care in hospitals and by physicians, many more people suffer chronic disabling conditions that require long-term care either at home or in nursing homes.

At present the United States simply does not have, either in the private or the public sector, satisfactory mechanisms for helping people anticipate and pay for long-term care.

The disabled elderly and their families find, often to their surprise, that the costs of long-term care are not covered to any significant extent either by private insurance or by medicare. They must rely on their own resources, or, when those have been exhausted, turn to welfare.

Before the aging of the population puts additional stress on this inadequate system, we believe the Congress should carefully consider alternative ways of financing long-term care, and what role the Federal Government might play in them.

We are just completing, as you noted, a 3-year study to be published by the Brookings Institution in May entitled, Caring for the Disabled Elderly: Who Will Pay?

We had a distinguished advisory committee helping us with that study, of which Barbara Matula was a member.

In this study, we assess the current status and future demand for long-term care; evaluate the costs and effects of public and private sector options for paying for long-term care in the future; and suggest some directions for reform.

We are pleased to summarize the findings of the study briefly today, and we will make it available to the committee as soon as it is in final form.

Most elderly people, fortunately, are not disabled. But the incidence of disability is high for the very elderly. Over half the population aged 85 and over had some disability in 1985.

Mortality rates at advanced ages have come down dramatically in recent years, bringing increases in the number of disabled elderly.

Most disabled elderly are cared for at home, which is where they greatly prefer to be. Caregivers are usually relatives; generally spouses, daughters, daughters-in-law; occasionally friends.

These unpaid services, which frequently put great strain on families, are sometimes supplemented by paid services of home health workers, homemakers, and adult day-care and respite care.

Only about 22 percent of the disabled elderly were in nursing homes in 1985. Those who must seek nursing home care find its cost high relative to the resources of an average family. The cost of a year in a nursing home averages around $22,000, and can be much higher. Hence, although they serve less than a quarter of the disabled elderly, nursing homes dominate long-term care financing.

Only a trivial portion of total long-term care bills are now covered by any form of insurance, public or private. The disabled elderly, who pay for long-term care, do it out of their own or their families incomes or assets. They turn to medicaid, if they are poor, or have "spent down" their income and assets to levels that make them eligible.

This dominance of private out-of-pocket spending and medicaid in long-term care financing creates a two-class system of care. Medicaid reimbursement rates are below rates charged private pay patients. As a result, medicaid patients tend to get a lower quality of care, and often find an inadequate supply of services and waiting lists for admission.

The fact that medicaid normally covers nursing home care, but little home care introduces an institutional bias into the system. Medicaid financing of long-term care is perceived as demeaning by long-term care beneficiaries, especially middle class beneficiaries who never expected to be on welfare; as inadequate by providers; and as expensive by State and Federal taxpayers.

It is really strange that a country with a highly developed private insurance industry and broad social insurance coverage, especially for the elderly, has paid so little attention to ways of financing long-term care.

One explanation is denial—the idea that the prospect of becoming disabled and needing long-term care is so unpleasant that no one wants to think about it. But it seems more likely that the development of insurance approaches has been inhibited by the uncertainty arising out of two characteristics of long-term care.

First, long-term care is needed primarily by the very elderly. A long time is likely to elapse between the time provision financing might be made and its use.

Possible changes in income, inflation and the risk of disability over this period create major uncertainties both for buyers and for sellers of long-term financing.

And second, long-term care is currently provided primarily by relatives. Hence, the risk of "moral hazard," of the greater use of paid care once financing is available, is considerable, especially for home care.

Whatever the reasons, the United States so far has relied for long-term care financing on a patchwork of private out-of-pocket spending and a severely means-tested welfare program for financing long-term care.

Pressure on this patchwork system will mount as the population of disabled elderly increases. One thing is virtually certain: Over the next several decades the bill for long-term care will rise.

Our study makes detailed projections of the disabled elderly population up to the year 2020, which is actually not very long from now, together with their income and resources, and likely use of long-term care, assuming that mortality rates continue to decline, incomes and inflation continue to grow at moderate levels, and current policies with respect to financing long-term care do not change.

These projections show that over the next three decades, first, the number of older people will grow rapidly, especially the very elderly; and because they will be older, an increased proportion of the elderly population will be disabled.

Second, the real incomes of the populations aged 65 to 74, will more than double over three decades. But the incomes of those over age 85 will grow only about 17 percent after inflation.

Third, spending for long-term care will rise rapidly, with total spending for nursing homes more than tripling in real terms, assuming that nursing home utilization rates remain constant by age, and nursing home costs rise at the same rate as real wages. Those are fairly conservative assumptions.

And fourth, although both private and public spending for long-term care will rise rapidly, public spending, principally medicaid, will rise faster, and the proportion of nursing home patients dependent on medicaid will not decrease.

This last result is surprising. Since the overall economic well being of the elderly is expected to improve substantially over the period, one might ask why they would become increasingly dependent on a program intended for the poor?

The answer is that long-term care costs are projected to rise faster than the incomes of the very elderly, which is the group most likely to use long-term care.

Thus, those with the greatest risk of needing care will actually be worse off in the future in terms of their ability to pay for it.

Our study examined a wide variety of alternative ways that long-term care might be financed in the future. We focused first on several widely discussed private sector initiatives, including individual medical accounts, designed to foster savings; home equity conversions, to help the elderly use the equity in their home for long-term care; private long-term care insurance; continuing care retirement communities; and social health maintenance organizations, an extension of the idea of health maintenance organizations to include long-term care services.

In projecting the potential market for private sector initiatives over the next three decades, we made optimistic assumptions about the number of people who would participate in private sector financing.

Our purpose was to answer the question: What is the most that can reasonably be expected from the private sector with respect to participation in the portion of long-term care expenses financed, and the deduction in the use of medicaid?

Our projections indicate substantial potential for growth of private sector financing mechanisms for long-term care. A potential multibillion market is almost entirely untapped.

On the other hand, even under our optimistic assumptions about who would participate, private sector financing cannot be relied upon to do the whole job. Private sector approaches are highly unlikely to be affordable by a majority of the elderly; to finance more than a modest proportion of total nursing home and home care expenditures; or to have more than a small impact on medicaid expenditures, and the number of people who spend down to medicaid financial eligibility levels.

For example, we estimate that by 2020, at best, private long-term care insurance aimed at those 65 and over, may be affordable by 26 to 45 percent of the elderly; may account for 7 to 12 percent of total nursing home expenditures; and may reduce medicaid expenditures and the number of medicaid nursing home patients by only 2 to 5 percent.

Those general conclusions apply also to individual medical accounts; continuing care retirement communities; and the rest of the private sector options.

Home equity conversions are the only option in which a substantial majority of the elderly might participate, because so many own their own homes. However, home equity conversions have limited potential for paying large, long-term care bills.

Our projections thus indicate that it is not reasonable to count on the private sector for substantial reductions in medicaid spending for long-term care, or appreciable decreases in the number of lower and middle income people spending down to medicaid eligibility.

Hence it is important to address the question, should the Nation stick with medicaid as its major program for financing long-term care; or enact a new program of social insurance?

Our study considers some liberalizing changes that make the means test in medicaid less onerous, and reimbursement rates more adequate, while retaining the basic characteristic of a joint Federal-State program providing long-term care financing for those who need it most.

We conclude that some incremental improvements in medicaid would be desirable, and not inconsistent with future efforts to restructure the Federal role in a more fundamental sense.

There are serious disadvantages, however, to placing growing reliance on a means-tested welfare program to finance long-term care. Public charity always carries some stigma, and efforts to reduce taxpayers cost are likely to perpetuate a two-class system with inferior care and status for the medicaid patients.

We believe it would be greatly preferable to recognize that long-term care is a normal, insurable risk for the elderly. It should be covered under a general, social insurance program like medicare, and not through a welfare program like medicaid.

Everyone should contribute to public, long-term care insurance, and earn the right to benefits when they need them without having to prove impoverishment.

The most straightforward approach to Federal financing of long-term care is adding long-term care benefits to medicare with a corresponding increase in contributions to the medicare trust fund.

Social insurance coverage, however, should not make long-term care free, or even nearly free, to medicare beneficiaries. Substantial cost-sharing is appropriate to control increases in service use that might occur if financing were newly available to a large number of disabled elderly who do not now receive paid care.

Indeed, with respect to home care, where the risk of increased services is far greater than for nursing home care, limitations of benefits to the severely disabled, strictly defined, would also be desirable.

Two basic approaches to public insurance should be considered, which imply different kinds of reliance on the private sector.

Coverage of nursing home care, and home care under medicare that provides basic protection for elderly people who become disabled, but with substantial cost sharing for all users, regardless of length of stay, would be one possibility.

The basic model for this is the current medicare program. The role of the private sector financing would be supplementary, to provide greater protection for those who desire it.

The second possibility puts greater reliance on an expanded market for private insurance to provide affordable long-term care coverage for a defined period, say 1 or 2 years, with the public insurance covering the cost of care for long stay patients.

This approach requires a substantial faith in the private sector, and leaves the Federal Government with the role of providing coverage for truly catastrophic long-term care costs, and would require retaining a residual medicaid program for those who cannot afford private financing.

Either of these two approaches appear to us to be feasible. Public costs would be substantial, but we believe they need not be unmanageable.

In sum, Mr. Chairman, our projections have convinced us that major new initiatives are needed both in the private sector and the public sector, to improve the financing of long-term care.

Americans should recognize that long-term care is a normal risk of growing old that needs to be anticipated. A large potential market exists for private long-term care insurance, and other private initiatives.

Development of that market by the private sector, with encouragement from the government, would make long-term care much more affordable for a substantial fraction of the population.

However, even with maximum likely development of private options, public spending for long-term care, mostly under medicaid, will increase rapidly for the foreseeable future.

Since continuing to rely on a welfare program to finance long-term care for a large part of the population seems to us undesirable, we believe ways should be found to broaden medicare coverage to include long-term care, albeit with substantial cost-sharing and other methods of avoiding rapid increase in utilization and cost, especially in home care.

Thank you.

Chairman CHILES. Thank you, Dr. Rivlin. All right, Barbara, we want to hear your statement.

STATEMENT OF BARBARA MATULA, DIRECTOR, NORTH CAROLINA DIVISION OF MEDICAL ASSISTANCE

Ms. MATULA. Thank you.

You have asked me to talk about pressures of long-term care in the State's medicaid budget, and the future demands on medicaid systems.

In the testimony I have submitted to you, I have attempted to describe, sometimes in very painful honesty, the shortcomings of the medicaid program, as well as some of our successes in meeting the long-term care needs of the growing elderly population, and those of the disabled.

In North Carolina, our eligibility limits for medicaid are very strict. Generally, we cover persons whose incomes are one-half or less the Federal poverty level.

They must spend all their assets down to $1,500 a person, less even than SSI, the Federal supplemental security income program, before we can qualify them for medicaid.

In addition, in our State, our supply of nursing home beds is among the lowest in the Nation. We have 36 beds per 1,000 persons over age 65 compared to the national average of 59 beds per 1,000 elderly population.

We have, though, in recent years, implemented very aggressively the home and community base waiver options available to us for the elderly and disabled.

And right now, 38 of our 100 counties actively participate, serving about 1,800 people. We estimate the average cost to be about half that of nursing home care cost.

In addition to this we added an optional service, personal care services, in all 100 counties. And it, too, has increased tremendously in just the past 2 years.

In sum, since 1981, when all we offered was a minimal health care package and nursing home care, we were then spending 31 percent of our medicaid budget on long-term care for the elderly and disabled.

Today, we are still paying only 31 percent of our budget for long-term care for the elderly disabled, but we are serving about 17,000 more people in this system, thanks to the use of home and community based care, home health and personal care services.

Please let me note that when you hear 45 or 50 percent of a State's budget on long-term care, it usually includes institutional care for the mentally retarded, and I am not describing that in this testimony today. That is quite separate.

The pressures in North Carolina to increase the supply of nursing home beds have really grown. 2,500 new beds are estimated to be needed in North Carolina to meet our needs just by the year 1990, 2 years from now.

And every 100 beds added to the general population in North Carolina for nursing homes will cost the medicaid program over $1 million each year.

When you think about the demographics, and I cannot stress this enough, the average person in a nursing home is 83 years of age, and the population in North Carolina that is age 85 and above is expected to grow 85 percent in the next 12 years.

Senator SASSER. Would you repeat that figure please?

Ms. MATULA. The percentage of persons who live past the age of 85 in North Carolina will grow by 85 percent in the next 12 years.

These are the people who will require intensive care, whether it be in nursing homes, or at home, or somewhere in the community.

Senator DOMENICI. What percentage of the population is 85 or older?

Ms. MATULA. I'll have to look that up for you. But it is growing. We are moving fast as one of the Sun Belt States in attracting retirees. I think we moved up from 17th to 7th place in the last few years in terms of new retirees coming into the State. And they will become a liability as they live out their lives past age 85.

So while we have held our expenditures fairly closely with the imaginative use of alternative services, we see our budget only going up in spite of those services and all that we have done in the past.

In addition to that, recently you folks have enacted what I believe are very necessary quality of care requirements for nursing homes. Those requirements will increase staffing costs in nursing homes across the country, and the training costs of those staffs, and those costs will be passed along directly to the medicaid budgets and the rates we pay.

Providers of home care and personal care are also pushing for higher rates of reimbursement, telling us that they need to pay that home care provider a higher rate, not only to attract the providers to this new industry, but to retain those who are qualified.

Access to the services I have described is not uniform across North Carolina. There are many areas in which these services have not been developed, and we need to expand the availability of them, just to have uniformity across the State.

So that all these pressures are going to increase our medicaid budgets without doing very much different than we are doing today.

I was asked also to describe, if I could, the effects of the deliberations that are going on right now with the catastrophic health insurance bill, and how these costs may be passed, again, on the medicaid.

Our estimate is that if all the options available in the catastrophic health insurance bill are enacted, in North Carolina, we will add 94,000 new elderly and disabled for medicaid rolls, medicaid rolls that now only include 72,000 eligible elderly and disabled.

The cost in State and local dollars would be $41 million the first year, if all those provisions become law.

The dilemma here is that we are going to be required, perhaps, to add those elderly and disabled whose incomes go up to 100 percent of the poverty level, to our medicaid program.

And in the poorest of States, and North Carolina ranks among them, we have not been able to enroll as many of these as the richer States. Therefore, the burden will be on us to greatly expand the number of people who are eligible for medicare, for what is called buy-in provisions or pharmacy provision. The very States that are least able to afford will have the largest case loads to add.

There will be tradeoffs if this should occur. Right now we are in budget session for what North Carolina calls a short session. We have a biennial budget. The first year of the biennial, which was last year, we put forth our expansion items. And in this short session, we can only bring before the legislature items that are mandated, or the recommendations of study commissions.

I had to request $10 million in State and local funds simply to make up lost Federal funds, because our matching rate was reduced; and second, to pay the cost of part B medicare premiums which have increased some 38 percent over last year.

We are paying for those part B premiums for the elderly poor, and our costs have also gone up.

The tradeoff for that $10 million in the short session might be our ability to go above the 100 percent of poverty for pregnant women and children option that is available to us this year.

If the $41 million hits us next year, it could eliminate again the opportunities to expand the program to cover more pregnant women and children, or to continue with some new optional services such as hospice, case management. The things that we have added most recently might be the first to be cut.

Certainly, it is not something that we want to do. But you asked what the pressures are on a State's medicaid budget for long-term care. And I have to tell you that the pressures are more than long-term care.

We see too many babies that are born prematurely, or who die within a few months of birth, because their parents have not had access to needed health care.

We will pay far more for their care in their short lives, or for the disabilities they will carry with them throughout their lives, than we ever would on prenatal care. But we are limited as to how far we can extend our benefits.

We see disabled persons who suffer the same impoverishment as the elderly we have described today, because they have a 2-year waiting period before medicare will pick up any of their acute care bills, and they must become dependent on medicaid.

We see parents begging on the 6 o'clock news for aid in their communities to finance an organ transplant, or a bone marrow transplant, for a child in their family. We see uninsured minimum wage earners in our growing service economy who are not afforded insurance benefits at their place of employment, who then play Russian roulette with their health care needs, and when perhaps a preventable disease or accident does occur that is high cost, they leave the employment rolls and once again apply for medicaid. So much for welfare reform.

We see, of course, our parents and our grandparents, and unfortunately for some, our spouses, impoverished because they have lived a long life and have accumulated too many frailties, or they were the victims of Alzheimer,s disease, which does not wait until you are 65.

AIDS victims, the homeless, the chronically mentally ill, the mentally retarded, the developmentally disabled, these are all competing today for shrinking medicaid dollars. And every gap that seems to be identified in the medicare program is increasingly getting patched up by medicaid.

States must balance their budgets. And therefore, they have to order their priorities, as painful as they are, each year. And those priorities are not limited to health care; they're looking at early childhood education; transportation; housing needs. Job training. Economic development. To make themselves more competitive.

So I think it is unrealistic to imagine that in the future medicaid can meet all of the health care needs of the uninsured, the underinsured, and the uninsurable, when today we can only meet the health care needs of half those who live in poverty.

I think you have got the toughest job of all. But medicare and medicaid are 23 years old now, and long overdue in need of an overhaul.

I think we might need to go back and rethink what the roles of both those programs can be and should be, and then what role the private sector can and should play, not only in financing long term care, but in basic health care needs for a population.

Thank you.

Chairman CHILES. Thank you.

[The prepared statement of Ms. Matula follows:]

North Carolina Department of Human Resources
Division of Medical Assistance
1985 Umstead Drive • Raleigh, North Carolina 27603
James G. Martin, Governor
David T. Flaherty, Secretary
Barbara D. Matula, Director
(919) 733-2060

TESTIMONY OF BARBARA D. MATULA, DIRECTOR NORTH CAROLINA DIVISION OF MEDICAL ASSISTANCE

BEFORE THE

COMMITTEE ON THE BUDGET
UNITED STATES SENATE

HEARING ON LONG TERM CARE

MARCH 17, 1988

MR. CHAIRMAN, MEMBERS OF THE BUDGET COMMITTEE, THANK YOU FOR INVITING ME TO TESTIFY TODAY.

I AM BARBARA MATULA, DIRECTOR OF NORTH CAROLINA'S MEDICAID PROGRAM SINCE 1979. I CURRENTLY SERVE ON THE NATIONAL COMMISSION TO PREVENT INFANT MORTALITY AND CHAIR APWA'S ACCESS TO HEALTH CARE TASK FORCE WHICH IS STUDYING HOW WE CAN PROVIDE HEALTH CARE TO THE NATION'S WORKING UNINSURED. IN ADDITION, I HAVE SPENT THE LAST FIVE YEARS LOOKING FOR NEW WAYS TO FINANCE LONG TERM CARE FOR THE ELDERLY AND DISABLED. TODAY, THEY HAVE FEW IF ANY ALTERNATIVES TO EXHAUSTING THEIR SAVINGS AND TURNING TO MEDICAID ONCE IMPOVERISHED.

MEDICAID WAS DESIGNED IN 1965 TO MEET THE HEALTH CARE NEEDS OF POOR FAMILIES WITH CHILDREN. MEDICARE WAS INTENDED TO MEET THE NEEDS OF THE ELDERLY AND THE DISABLED. BY DEFAULT, MEDICAID HAS BECOME THE NATION'S LONG TERM CARE PROGRAM FOR THE ELDERLY AND DISABLED, RICH AND POOR ALIKE.

LAST YEAR THE MEDICAID BUDGET FOR NORTH CAROLINA PURCHASED $819 MILLION WORTH OF SERVICES. SEVENTY-TWO PERCENT OR $595 MILLION WAS SPENT ON BEHALF OF THE ELDERLY AND DISABLED WHO MAKE UP LESS THAN A THIRD OF OUR 452,000 MEDICAID RECIPIENTS.

QUALIFYING FOR MEDICAID IN NORTH CAROLINA IS NOT SIMPLE. BECAUSE OUR AFDC PAYMENTS ARE LOW, OUR MEDICAID INCOME LEVELS ARE ALSO LOW. TO ILLUSTRATE, THE FEDERAL POVERTY LEVEL IS THE AMOUNT OF MONEY AN INDIVIDUAL OR FAMILY NEEDS TO MEET BASIC COSTS OF LIVING.

THE 1988 FEDERAL POVERTY LEVEL FOR 1 PERSON IS $5,770. THE MEDICAID INCOME LEVEL FOR ONE PERSON IN NORTH CAROLINA IS $2,900 - OR ABOUT 1/2 THE FEDERAL POVERTY LEVEL. WE REQUIRE PERSONS WITH ANNUAL INCOMES IN EXCESS OF $2,900 TO SPEND THEIR "EXCESS INCOME" ON HEALTH CARE BEFORE THEY CAN QUALIFY FOR MEDICAID. IN ADDITION AN INDIVIDUAL CAN HAVE NO MORE THAN $1,500

IN ASSETS IN ORDER TO QUALIFY.

IF AN INDIVIDUAL REQUIRES NURSING HOME CARE, HE OR SHE MUST SPEND THEIR ASSETS DOWN TO $1,500 BEFORE QUALIFYING FOR MEDICAID AND THEN MUST CONTRIBUTE ALL BUT $25 OF THEIR MONTHLY INCOME, IF ANY, TO THE COST OF THEIR NURSING HOME CARE. ABOUT 90% OF MEDICAID RECIPIENTS IN NURSING HOMES IN NORTH CAROLINA CONTRIBUTE TO THE COST OF THEIR CARE, REDUCING MEDICAID OUTLAYS BY 22%.

ONCE AN ELDERLY OR DISABLED PERSON QUALIFIES FOR MEDICAID, MEDICAID PAYS HIS OR HER MEDICARE COST-SHARING OBLIGATIONS SUCH AS MONTHLY PREMIUMS, DEDUCTIBLES AND CO-INSURANCE. IN ADDITION, WE PAY FOR SERVICES NOT COVERED BY MEDICARE, SUCH AS PRESCRIPTION DRUGS, DENTAL CARE, EYEGLASSES AND OF COURSE, LONG TERM CARE. FOR THE DISABLED, MEDICAID COVERS ALL OF THEIR HEALTH CARE NEEDS DURING THE TWO YEAR WAITING PERIOD FOR MEDICARE ELIGIBILITY AND THEN SUPPLEMENTS MEDICARE BENEFITS

AS IT DOES FOR THE ELDERLY.

WE HAVE MANAGED TO KEEP OUR LONG TERM CARE EXPENDITURES RELATIVELY STABLE IN RELATION TO THE TOTAL MEDICAID BUDGET. THIS IS DUE TO A TIGHT BED SUPPLY AND THE DEVELOPMENT OF ALTERNATIVE NON-INSTITUTIONAL LONG TERM CARE SERVICES.

COMPARED TO THE NATIONAL AVERAGE OF 59 NURSING HOME BEDS PER 1,000 PERSONS OVER THE AGE OF 65, NORTH CAROLINA RANKS LOW WITH ONLY 36 BEDS PER 1,000 ELDERLY RESIDENTS.

TODAY, NURSING HOME EXPENDITURES FOR SKILLED AND INTERMEDIATE CARE ACCOUNT FOR 28% OF OUR MEDICAID EXPENDITURES COMPARED TO 31% IN 1981. OVER THE SAME TIME PERIOD THE STATE'S INVESTMENT IN HOME AND COMMUNITY BASED CARE HAS GROWN SUBSTANTIALLY. HOME HEALTH EXPENDITURES HAVE RISEN FROM $6.6 MILLION TO $15.6 MILLION IN THE LAST TWO YEARS ALONE: OUR WAIVER PROGRAM FOR THE ELDERLY AND DISABLED HAS GROWN FROM $1.5 MILLION TO $7.5 MILLION IN

THE SAME PERIOD. LIKEWISE, PERSONAL CARE SERVICES ARE EXPECTED TO DOUBLE IN THE NEXT YEAR AND HOSPICE WAS ADDED TO THE MEDICAID SERVICES OFFERED IN JANUARY OF THIS YEAR.

THUS, WHILE TOTAL EXPENDITURES FOR LONG TERM CARE SERVICES (INCLUDING BOTH INSTITUTIONAL AND NON-INSTITUTIONAL SERVICES) HAVE REMAINED AT A FAIRLY CONSTANT 31% OF BUDGET SINCE THE EARLY 1980'S, THE NUMBER OF PERSONS SERVED IN THIS CONTINUUM OF CARE HAS INCREASED DRAMATICALLY FROM 29,500 IN 1981 to 45,600 IN 1987.

IN SPITE OF THIS, THE PRESSURE TO INCREASE THE AVAILABILITY OF BOTH NURSING HOME AND COMMUNITY-BASED SERVICES CONTINUES TO GROW. FUELED BY POPULATION ESTIMATES THAT PREDICT AN INCREASE OF 57% IN THE 75-84 AGE GROUP BETWEEN 1985 AND THE YEAR 2000, AND AN 85% INCREASE IN THE AGE 85 AND OVER POPULATION FOR THE SAME PERIOD, THE STATE'S HEALTH FACILITIES PLAN ESTIMATES AN UNMET NEED OF 2,500 NURSING HOME BEDS

THROUGH 1990. THE COST TO THE MEDICAID PROGRAM FOR EVERY 100 NEW NURSING HOME BEDS BUILT IS OVER $1 MILLION PER YEAR.

THE RATES WE PAY NURSING HOMES IS CERTAIN TO ESCALATE AS FACILITIES IMPLEMENT THE NEWLY MANDATED QUALITY OF CARE REQUIREMENTS WHICH WILL INCREASE BOTH STAFFING AND TRAINING COSTS.

IN ADDITION, ACCESS TO NON-INSTITUTIONAL LONG TERM CARE SERVICES IS LIMITED IN SOME PARTS OF THE STATE AND NEEDS TO BE EXPANDED. PROVIDERS OF SERVICES SUCH AS PERSONAL CARE ARE ALSO SEEKING RATE HIKES TO ATTRACT AND RETAIN QUALIFIED CARE GIVERS.

IT IS CLEAR THAT OUR ABILITY TO CONTAIN LONG TERM CARE COSTS IN THE FUTURE WILL BE DIRECTLY AFFECTED BY INCREASED DEMAND FOR AND INCREASED COSTS OF SERVICES BOTH AT HOME AND IN INSTITUTIONS.

IN ADDITION TO LONG TERM CARE, STATES ARE FACING INCREASED NEEDS AND DEMANDS FOR MEDICAID COVERAGE OF

MORE PREGNANT WOMEN AND CHILDREN, AIDS VICTIMS, TECHNOLOGY DEPENDENT CHILDREN AND ADULTS, ORGAN TRANSPLANT PATIENTS, CLOSED HEAD INJURY VICTIMS, AND UNINSURED WORKERS AND THEIR DEPENDENTS, ESPECIALLY THOSE IN TRANSITION FROM WELFARE TO WORK.

LAST YEAR NORTH CAROLINA RAISED ITS INCOME ELIGIBILITY LEVELS TO 100% OF THE FEDERAL POVERTY LEVEL FOR PREGNANT WOMEN AND YOUNG CHILDREN, EXTENDED COVERAGE TO UNEMPLOYED PARENTS IN JANUARY OF 1988, AND IS EXPLORING WAYS TO EXPAND ELIGIBILITY FOR THE ELDERLY AND DISABLED, AS ALLOWED BY OBRA-86, IF REVENUES CAN BE FOUND.

BUT RECENT DELIBERATIONS BY CONGRESSIONAL COMMITTEES MAY OVERTAKE THESE ACTIONS. CONGRESS IS CONTEMPLATING SEVERAL PROVISIONS IN THE CATASTROPHIC HEALTH INSURANCE LEGISLATION WHICH COULD INCREASE THE NUMBER OF ELDERLY AND DISABLED MEDICAID RECIPIENTS IN NORTH CAROLINA BY 94,000 AT A POSSIBLE COST OF $41 MILLION IN STATE AND LOCAL EXPENDITURES.

THESE INCLUDE PROVISIONS TO MANDATE COVERAGE OF MEDICARE COST SHARING TO ALL ELIGIBLES UNDER THE FEDERAL POVERTY LEVEL; MANDATE PROTECTION OF HIGHER INCOME AND ASSETS LEVELS FOR COMMUNITY SPOUSES OF NURSING HOME RESIDENTS; AND MANDATE PRESCRIPTION DRUG BENEFITS FOR MEDICARE BENEFICIARIES UNDER THE FEDERAL POVERTY LEVEL.

- POORER STATES FIND THEMSELVES IN A BIND BECAUSE THEY CURRENTLY COVER FEWER OF THE ELDERLY AND DISABLED UNDER THE POVERTY LEVEL THAN RICHER STATES AND MUST ADD LARGE NUMBERS TO THE MEDICAID ROLLS WITHOUT SUFFICIENT REVENUES TO DO SO.

BY MANDATING ADDITIONAL COVERAGE GROUPS CONGRESS IS PRIORITIZING WHAT GROUPS WILL RECEIVE ASSISTANCE THROUGH THE MEDICAID PROGRAM. FACED WITH INADEQUATE REVENUES TO COVER BOTH OPTIONAL AND MANDATORY GROUPS OF ELIGIBLES, STATES MAY BE FORCED TO SCALE BACK OPTIONAL COVERAGE GROUPS OR OPTIONAL SERVICES.

CONGRESS THEN, IN EFFECT, IS SAYING TO THE STATES THAT MEDICAID DOLLARS FIRST MUST BE SPENT ON MEDICARE CO-INSURANCE COSTS RATHER THAN ON MEDICAL SERVICES TO UNEMPLOYED FAMILIES, OR TO 19 AND 20 YEAR OLDS. IT MAY BE DICTATING THAT PAYMENT OF MEDICARE PREMIUMS IS MORE IMPORTANT THAN COVERAGE OF HOSPICE SERVICES OR CASE MANAGEMENT SERVICES.

SUCH TRADEOFFS ARE INEVITABLE AS LONG AS MEDICAID IS USED TO FILL THE GROWING GAPS IN MEDICARE WITHOUT REGARD TO OTHER HEALTH CARE NEEDS WITHIN THE GENERAL POPULATION.

THE ELDERLY AND DISABLED ALIKE SHOULD NOT BE FORCED INTO ABJECT POVERTY TO GAIN ACCESS TO NECESSARY CARE. AT THE SAME TIME, LOW INCOME FAMILIES AND CHILDREN SHOULD NOT HAVE TO GO WITHOUT BASIC PRIMARY PREVENTIVE HEALTH CARE FOR LACK OF INSURANCE COVERAGE.

IT IS UNREALISTIC TO IMAGINE THAT MEDICAID ALONE CAN MEET ALL OF THE HEALTH CARE NEEDS OF THE UNINSURED, THE UNDERINSURED AND THE UNINSURABLE WHEN MOST STATES ARE UNABLE TO OFFER BENEFITS TO MORE THAN HALF THEIR RESIDENTS WHO LIVE IN POVERTY.

WE NEED TO RETHINK AND RESHAPE THE ROLES OF MEDICARE AND MEDICAID IN MEETING THE NEEDS OF THE ELDERLY AND THE DISABLED AND DETERMINE WHAT ROLE THE PRIVATE SECTOR CAN AND SHOULD PLAY IN FINANCING LONG TERM CARE.

Chairman CHILES. Mr. Bourque?

STATEMENT OF DANIEL P. BOURQUE, SENIOR VICE PRESIDENT, VOLUNTARY HOSPITALS OF AMERICA, AND CHAIRMAN, TASK FORCE ON LONG-TERM CARE POLICIES, ACCOMPANIED BY DENNIS DeWITT, CONSULTANT, FOSTER HIGGINS, AND FORMER EXECUTIVE DIRECTOR, TASK FORCE ON LONG-TERM CARE POLICIES

Mr. BOURQUE. Thank you, Mr. Chairman. Good afternoon, members of the committee.

My name is Dan Bourque. I am senior vice president of Voluntary Hospitals of America, the largest alliance of private nonprofit hospitals in the country.

I am here today, however, in my recent capacity as chairman of the task force on long-term care policies. And accompanying me is Mr. Dennis DeWitt, a managing consultant with Foster Higgins, and former executive director of that same task force.

The task force was congressionally chartered by the Consolidated Omnibus Reconciliation Act of 1985, and was composed of 18 members.

We were essentially charged with developing recommendations for, first, creating greater consumer awareness as to the needs and financing long-term care; second, establishing responsible consumer protection measures against potential fraudulent or abusive sales and marketing practices; and finally, to promote the rapid development of a broad market for long-term care policies.

The task force report was submitted to Congress and the Secretary of Health and Human Services, Dr. Bowen, in September of last year. It contained 41 recommendations, which are highlighted in a written statement I have provided for the committee which is requested be included in the record.[1]

The task force discussed several basic principles during the course of our deliberations which I believe provide a useful framework to consider this issue.

First, there is no silver bullet to solve this problem, no simple solution. The solution is going to require multiple strategies, and demand the best in innovation and resources from all sectors, public, private and the voluntary sector. Each has a very important contribution to make.

Second, financing a loan will not satisfy our long-term care needs as a nation. The complexity and magnitude of the problem will require new and expanded delivery systems encompassing both medical and social services; effective methods to contain costs; and research breakthroughs to reduce disability and improve the quality of life.

Third, public policies aimed at addressing these concerns should do little to disrupt or discourage the extensive and compassionate network of informal care currently given and provided by family members and friends.

Our solutions ought to support and encourage these informal care efforts.

---

[1] See p. 48.

And fourth, public policy should promote individual responsibility, so that those who are able to pay for services, or who can afford to purchase adequate protection, are encouraged to do so.

I would like to impress on you the important role private long-term care insurance can potentially play in addressing this important concern.

The high cost of long-term care and the demographics of an aging population make pay-as-you-go financing far less desirable than prefunding for long-term care needs. Furthermore, few individuals have the capacity to finance an extended nursing home stay or other long-term care service entirely out of their assets and income.

Given the current Federal deficit picture, I guess the same could be said for government's ability to finance a new long-term care program.

Many people, however, may be able to provide for nursing home and other long-term care needs through the purchase of long-term care insurance. Because of the efficiencies of risk pooling and the internal buildup of accumulated reserves, insurance provides the most efficient means of meeting financial risks that are too great a burden to bear alone.

The public and private sector should take immediate steps to encourage the expansion of long-term care insurance. The heightened awareness of the need for financial protection against the potentially ruinous cost of long-term care services make this an ideal time for stimulating growth in long-term care coverage.

The market will need time to develop, and the sooner we begin, the better.

In just the past 3 years, there has been a dramatic growth in the private insurance market for long-term care policies. The number of insurance companies offering such coverage has grown from about 20 in 1983 to over 70 today.

And the number of individuals covered by these policies has increased from 100,000 to nearly half a million.

During this time we have also witnessed a substantial change in the types of policies being marketed and sold. For example, policies now include features such as inflation adjustments; case management; a variety of alternative home and community based services; eligibility criteria that are predicated on limitations in activities of daily living; and service benefit related reimbursement.

In addition, exclusions for diseases, specific conditions like Alzheimers and prior institutional stay requirements are being removed from many of these policies.

More and more the typical indemnity benefit policy with a fixed forever daily dollar limit for institutional or nursing home care is being augmented with products more responsive to consumer desires and needs.

Another exciting and recent development is in the area of employer sponsored long-term care insurance. A year ago virtually no employer in this country offered a long-term care plan. Today, over half a dozen large employers now offer this coverage to their employees: American Express, Procter and Gamble, the States of Alaska and Maryland, Aetna and John Hancock, and the list is growing.

The early experience of these employer plans has been encouraging. Enrollment rates have reached nearly 15 percent, even when the employee is asked to pay the entire premium.

The average age of purchasers has surprised many, with a range from the low 30s to the low 40s. And the percentage electing spousal coverage has been very high.

Some plans even allow the employee to purchase this coverage for his or her parents.

The task force underscored the importance of the employer-sponsored market as the most effective way to rapidly expand the availability of long-term care insurance.

Offering long-term care insurance to working age people through their employment is an effective means of making it available, making it attractive, and making it affordable to large groups of people.

It becomes even more attractive if the appropriate tax incentives are available.

A survey by the Washington Business Group on Health here in Washington of 147 major corporations found that the majority have already discussed or plan to discuss in the near future long-term care insurance with their insurers, and half indicated that they would probably offer such a benefit within the next 5 years.

Moreover, the Office of Personnel Management for the Federal Government has developed a proposal to offer long-term care insurance to eligible Federal employees. Their plan is linked to their group life insurance program.

If implemented, such a major employer-sponsored effort would provide an excellent demonstration ground for these types of plans.

Senator Wilson has introduced legislation that would give OPM the necessary authorization to proceed with this plan.

The prospects of linking long-term care insurance with a host of other insurance products—prepaid health plans like HMOs, continuing care retirement centers, vested pension plans and many others—offer tremendous opportunities in this market.

One proposal suggested by the task force would permit employees the option of directing a portion of their vested pension benefits, including IRAs, Keogh's, 401(k) plans, and the like, to the purchase of long-term care insurance.

Integrating disability, health, life and annuity contracts with long-term care features is also under development.

So it is evident that while policymakers debate whether we can afford another new entitlement program, there is emerging a promising private market for long-term care coverage.

Federal policies, particularly tax incentives, could significantly enhance the growth and the breadth of this market.

Obviously, the granting of tax subsidies will result in the loss of tax revenues. However, there are a range of tax policy options all of which would assist the private market in some way, and each with a different Federal revenue impact.

There is also the potential for savings in the Medicaid program over time which could more than offset the tax expenditures. A simulation of the task force combined pension and long-term care insurance proposal, using the Brookings Institution model, projected that by the year 2020, $1 of tax benefit would yield $2 in Medicaid savings to the Federal Government.

Unfortunately, the task force was unable during its short duration to obtain reliable cost estimates of these tax options. Requests to the Treasury Department by the Department of Health and Human Services for cost estimates have proven fruitless so far, and I would urge this committee to seek such estimates from Treasury directly.

What specifically can Congress do to create a more supportive tax environment to this private market? First, clarify the tax treatment of long-term care insurance reserves and the investment earnings credited to them.

Second, give long-term care insurance the same tax status given to health insurance with regard to the premiums paid, and the benefits received under individual and group long-term care contracts.

Third, remove current obstacles to employer sponsorship and funding of long-term care coverage as an employee benefit.

Next, allow individuals to make tax-free transfers of vested funds and pension plans, IRAs, and other retirement programs, to buy long-term care insurance.

Another option is to grant tax credits for all or a portion of the premium paid for long-term care insurance on an income related basis.

Finally, Congress could establish individual medical accounts or long-term care savings accounts.

These are just a few of the many tax options you could consider to promote expansion of the long-term care insurance market.

Such incentives would encourage individuals to take financial responsibility for their own future long-term care needs.

Several legislative proposals have already been introduced by some of your Senate colleagues, and many proposals also in the House, to create such incentives.

I would like to briefly mention two other things that will go a long way toward making the long-term care insurance market a reality: public education and consumer confidence in these insurance products.

Our task force found a good deal of misunderstanding that has already been mentioned here this afternoon regarding government protection for long-term care under the medicare program.

The responsibility to create greater awareness among the public regarding their risks of needing long-term care services, and their ability to finance them, rests with all parties: government, employers, insurers, consumer groups, financial counselors, among many others.

Legislative consideration of acute care catastrophic coverage under medicare over the past year has done much to inform the public regarding their medicare benefits. I noted this morning in the Washington Post, they were very quick to point out that long-term care benefits were not under consideration with the current catastrophic legislation.

We have had an opportunity to promote further understanding of this program, and will have an opportunity, upon enactment of a final catastrophic proposal.

The Department of Health and Human Services should inform each and every eligible beneficiary not only about what new benefits Congress approves, but, also the long-term care services which are not covered under the medicare program.

The medicare handbook should be revised to reflect the same. Insurers offering medicare supplemental policy should disclose the lack of long-term care protection in their policies.

Likewise, efforts should be made to inform individuals both young and old as to the increasing availability of insurance contracts which provide varying levels of long-term care protection.

The States have a significant role to play in regulating and monitoring the long-term care insurance market. The States should adopt the model statute and regulations prepared by the National Association of Insurance Commissioners. This statute provides a set of minimum requirements regarding disclosure, renewability, exclusions, preexisting conditions, loss ratios, and many others.

Swift implementation and strict enforcement will ensure that policies meet minimum standards and marketing practices are not misleading.

No one wants to repeat the problems experienced with the medigap market. We can address these issues up front, avoid those mistakes, and begin this promising new market on a positive note of consumer confidence.

This concludes my remarks, Mr. Chairman. I would be pleased to respond to any questions.

Chairman CHILES. I would like to thank each of you for your statements.

I am a little confused. I heard you say, Dr. Rivlin, and in your study, Dr. Wiener, that regardless of what we do, it looks like the private insurance is going to cover not much more than 5 percent.

Mr. Bourque, to listen to your statement, private insurance is the best thing since sliced bread here, and the only way to solve this problem.

I wonder, Dr. Wiener, if you can tell me why am I confused here?

Dr. WIENER. Well, I think part of the answer is that both are true. We will have a rapidly——

Chairman CHILES. Thanks a lot. [Laugher.]

Dr. WIENER. We will have a very rapidly growing private sector market, and I think that is all to the good, but we start with a remarkably low base. There are only, as Dan indicated, between 400 and 500,000 people currently with private long-term care insurance.

So it could grow at almost a geometric rate, and we could still be left, as we believe we will be in 30 years, with maybe a third of the elderly population with some kind of private insurance.

We think that there is a large market, and we encourage that market to grow. We just do not think that based on our analysis, that by any stretch of the imagination, we could end up with a situation where the overwhelming majority of elderly would have comprehensive private long-term care insurance.

Chairman CHILES. Would you agree with Mr. Bourque's statement that $1 in tax incentives would yield about $2 in medicare and medicaid savings?

Dr. **Wiener**. I would have to take another look at his calculations using output from our model. In general, we support many of the tax fix-ups that Dan suggested, but I think the lesson of tax reform is that a lot of incentives that you provide individuals end up costing the Treasury a lot of money and do not materially change behavior

I guess we have some very serious doubt as to whether or not tax credits for the purchase of insurance would encourage very many more people to buy insurance than would otherwise buy it.

Mr. **Bourque**. Mr. Chairman, if I might. As you have already heard this is really not a public versus a private-sector issue.

I think we are really talking about how to come at it best from both sectors, and I think what we may disagree on is the extent to which the private sector is going to play a role here.

The numbers that have been quoted out of the Brookings study suggest 26 to 45 percent of the elderly. I would point out that if it happened to be on the high end of 45 percent, we are talking about 20 million people in the year 2020, which is not an insignificant market by anyone's standards.

And I think some of the assumptions, as I understand them, that were used in the model to come up with those numbers, were fairly conservative.

For example, it is predicated on people buying their coverage at age 67, and older. It seems to me if you have any chance to make private insurance a really viable option here, we really need to encourage people to buy that insurance at a much younger age through employer plans and through other means.

We just cannot wait until they are 65, because once they are there, it is much more costly under any circumstance, and a large segment will not be able to afford it at that price.

The role of tax incentives here is to get at the low end of that scale.

If we are trying to reach people who are low to middle income, the people who are spending down into medicaid, then the only way we can move them into the private sector is to offer some kind of a tax incentive so that they can afford to purchase this insurance, and one can offer refundable tax credits, and a variety of other things, that yes, are costly, and will not come without expense to the taxpayer, but at least begin to move in the right direction.

I think what we are suggesting is that there is a substantial market for those who are of middle income, upper middle income, and certainly those who are wealthy, who ought to be taking a responsibility for covering themselves, and planning ahead, prefunding.

If we pay as you go on this problem we are sunk. We really have to get people to be thinking about this 10 and 20 and 30 years in advance.

Senator **Domenici**. Mr. Chairman, let me acknowledge right up front that I am really not the least bit expert in this area, and I am very interested. Almost everything everyone has said makes some kind of sense.

But let me start this way. Even as institutionalized as the definition of a hospital and hospitalization is, it is an evolving thing. We have gone through a lot of strife as to how you are sure somebody is legitimately in a hospital so that you can legitimately pay their expenses, and now we are trying to ratchet down the stay, by law, so that we do not have abuse.

But as I understand it we are bantering around the term "long-term health care", nursing-home care, as if we have a real definition of what that is.

And my head tells me that this definition is evolving. It was not too long ago when I came to the Senate that we went around the country holding hearings to determine what is a nursing home and what is just a place where elderly people can go and get room and board.

We did not have standards for the latter, and we thought we had standards for the former, but we found out that the standards that we did have were through medicaid for the most part, and we had different standards in different States.

So I guess I want to start by asking this question then. Are we sure we know what long-term care is and what it ought to cost? Or are we all assuming that what we have out there in the country called long-term nursing care is really long-term health care for people in this country?

Now let me preface it another way. I am rather impressed with some studies that have been done by people about the changes that are occurring in the United States in terms of productivity. I hear some thinkers say, if the United States is really going to be able to do what it has to do for its people and private sector that there are two areas that we really must increase—and I hate to use the word—productivity in.

You know, we did not even used to know how to measure productivity in the service area, as Dr. Rivlin will concur. We are just starting to measure that.

But the areas that they are talking about is health care and education. I gather that that means that both of these—considering technological changes—are costing more than they should cost per unit of delivery, 15–20 years from now. I happen to believe that.

I read the book "2020" in terms of our job market and productivity, and I think those people that did that are on to something.

What are we talking about when we talk about long-term health coverage for seniors? Secondly, is it logical that because we have medicare starting at 65, and social security soon to be vesting at 67, that we know what age we ought to vest long-term health care?

Mr. **Bourque**. Senator, let me take a stab at this.

It took the task force I think the better part of its first two meetings to arrive at some semblance of a definition. We struggled and we argued, and we finally used others' sense of long-term care as a definition.

We looked at the NAIC model. We looked at other definitions that groups had posed, and finally arrived at our own definition.

I will not read it to you because it is contained in the task force report but it is very encompassing. It is not just medical services. It is social services. And it has evolved.

As Barbara mentioned earlier, home and community-based service waivers under the medicaid program were not granted until about 1981 early in the 1980's, when it was starting to be recognized that maybe there was a better way to provide long-term care than sticking people in nursing homes and institutional settings.

Certainly people now recognize that there is a potential for a more cost-effective delivery outside the institution and certainly more humane delivery.

One of the difficulties I see, though, is that the structure to do this, the resources to provide this kind of care, have really not evolved at the same pace as our thinking about what we ought to be doing.

So I think one real serious problem we face down the road is having the infrastructure, having the ability to deliver the services that people will want.

And I can assure you if you provide a program and offer the benefits people will want to use them. The "woodwork effect" will begin to happen and people who receive those services now, perhaps at home, and through the care of family, will realize they can have it paid for by somebody else, and that is true whether it is private insurance or a public-insurance model. And we had better have the structure there to provide those services, if we are indeed going to offer them.

The other point you make I think is valid as well, and that is that we are not just talking the elderly here. I cannot remember the exact statistic, but I think it was as high as 40 percent of those who will be disabled by the year 2000, and who meet limitations of activities of daily living—meet two or more—will be people under the age of 65. So we are talking a whole other set of folks that we need to be taking care of, and who are not just the elderly.

So we are looking at a very wide range of activities encompassing a lot of people at all age spectrums, and we need to pay attention not just to the financing but to the delivery as well.

Dr. **Wiener**. If I could just say a word. I agree with Dan that basically long-term care is relatively switchy in its definition, and that is because you can care for people with relatively the same disability in a variety of settings. Nursing home, at home. In many cases, the family, by themselves, can take care of very severely disabled people.

In fact most very severely disabled people are in fact at home and not in a nursing home.

As to your other question about productivity, I think that the chance for productivity increases in long-term care are fairly low. We are basically talking about very personal hands-on services to help people with their eating, bathing, going to the bathroom. It is hard to imagine major technological breakthroughs that would make that terribly more efficient.

On the other hand, they are relatively low-tech services, by and large, and I would not expect to see, as we have seen on the acute-care side, where new innovations add dramatically to the cost.

Ms. **Matula**. It used to be easier when we thought of long-term care only in terms of people with health problems. A physician could prescribe nursing home care, say this patient needs 8 or 24 hours of nursing attention. It was quite simple. Alzheimer's, and other dementias, I think were the first to break that prescription ease.

Half the patients today in nursing homes have either Alzheimer's or related dementia associated with age.

Their needs are not all medical, but they are often dependent on what the family structure is. What exists for them at home? Only 12 percent of people in nursing homes are married because the likelihood is, if they are married, they are being cared for by that other spouse, whatever that spouse's condition.

So the reason for the medicaid waivers came about because of that built-in medical model institutional bias. We could get a physician to prescribe nursing home care based on some medical infirmity and pay $2000 a month under medicaid, but we would not pay $500 a month to have someone come in and look after the patient and prepare their meals, and help them dress and bathe, and so on, when we knew it could be cheaper.

That is when the fuzzying of long-term care began. It is now called continuum of care and it can cover anything from residential needs to adult day-needs, to personal care needs, to very serious nursing home needs.

Senator DOMENICI. Mr. Chairman, I only have one question. It will be by way of an answer for the record, if they can supply it.

I'll address it to those of you who have studied private-sector insurance and indemnity plans. Since it makes imminent sense to insure, and start it early—we ought to know what inhibitions there are in the Tax Code for both insurance companies and employers to get involved in providing this kind of coverage.

I wonder if in your studies you have developed such a list, and if you have, just say yes, and could you submit it for the record as a separate item. If you give us a book we are not going to read it, but maybe if you give us just a list, somebody will look at it.

Mr. BOURQUE. Yes, Senator. We have.

Dr. RIVLIN. It is not quite the same list.

Senator DOMENICI. But you have one and you have one?

Dr. WIENER. Yes.

Mr. BOURQUE. Yes

[The following was subsequently submitted for the record:]

FOSTER HIGGINS,
April 7, 1988.

Senator PETE V. DOMENICI,
Senate Budget Committee, Washington, DC.

DEAR SENATOR DOMENICI: It was a pleasure to appear before the Senate Budget Committee on March 17, 1988. I hope the presentation Dan Bourque made was helpful to your deliberations. During your questioning, you requested that you be provided a list of tax incentives which we felt might be helpful in terms of encouraging the private long-term care insurance market to develop. Since the task force is no longer in being and I am no longer an employee of the Health Care Financing Administration, I am responding to you from my own personal position having spent a good deal of time with this issue.

I believe the most important area for Congress to address would be:

1. The area of removing restrictions or roadblocks to the development of long-term care insurance and
2. Encouraging the development of long-term care insurance as a benefit which would be offered by employers.

To this end, high on my list of tax reform or tax changes, would be clarifying the position of insurance reserves for long-term care insurance. It is my suggestion that the reserves necessary to be held for long-term care insurance be allowed to accumulate on a tax-free basis similar to the way reserves are handled for life insurance policies. Secondly, I would suggest that the tax law be clarified so that there is common understanding that benefits paid by a long-term care insurance product are like those which are paid by a medical insurance program and are not taxable to the individual. Both of these issues have been addressed by individual ruling letter, but as you know, those rulings can only be used by the individual company which requested the letter and cannot be used as precedent-setting decisions.

The second area I would recommend you look at would be to revisit the Deficit Recovery Act of 1984 (DEFRA) and change the prohibition against pre-funding retiree medical benefits, including long-term care. In my judgement, it is critical that employers not only be allowed, but indeed, be encouraged to pre-fund for those future post-retirement long-term care needs in much the same fashion that we encourage employers to pre-fund for post-retirement income needs, as we do in the pension area.

I believe that a specific action should be taken to allow long-term care insurance to be sold within the context of a Section 125 cafeteria plan. Under current interpretations, this is made difficult, not impossible, but the product which must be offered is of limited value. Specifically, IRS has told the one company which has attempted to market this vehicle that the product can have no nonforfeiture values attached to it. That is to say that at any point in time when premiums cease, the benefits must cease. That could create a situation in which an individual might have begun to pay premiums at age 30 and at age 67 for some reason, found him or herself unable to continue to pay premiums. Under this ruling they would lose any benefit under the policy. I believe that nonforfeiture values are most appropriate and should be allowed in the context of long-term care. Secondly, there is a problem with how premiums are constructed to accommodate a level premium concept. There are a number of fancy ways to get around this, but I think it would be prudent to allow a level premium concept within a cafeteria plan only for long-term care insurance and specifically allow long-term care insurance to be sold within the context of a cafeteria plan.

It would also be helpful if Congress would consider allowing the transfer of assets from over-funded pension plans to fund retiree welfare benefits without penalty or taxation. In my judgement, this would allow those corporations which have surpluses as determined through the actuarial methodology required by ERISA to access that surplus and use it to benefit employees rather than being forced to pay taxes and penalties and/or terminate the plan to gain access to those surpluses. The current method encourages the employer to use the funds for other needs. The Task Force on Long-Term Healthcare Policies made a recommendation to allow the use of vested retirement funds whether they are held in IRA's, 401(k)s, ERISA pension plans or other sources to be used on a tax-free, non-penalty basis to purchase long-term care insurance. I believe that this has great merit that it has very minimal impact of the federal treasury, yet it would encourage individuals to begin to think of pre-funding post retirement needs. I would encourage you to look at that particular issue within the context of the Task Force Report and give it very serious consideration.

I hope these specifics have been helpful to you. I would be pleased to help you flush them out or engage in further discuss of these issues with your staff.

Finally, I have enclosed with this letter a copy of proposed legislation which will be offered by the insurance industry. I believe that the issues raised in this legislation would be very significant and very consistent with the recommendations which I have made above in this letter.

Sincerely yours,

DENNIS L. DEWITT, *Managing Consultant.*

[Excerpt From the "Report to Congress and the Secretary by the Task Force on Long-Term Care Policies"]

TAX INCENTIVES AND EMPLOYMENT ISSUES

31. The U.S. Department of the Treasury should formalize its position regarding the tax treatment of the long-term care insurance reserves held by insurers and the investment earnings credited to them. Such reserves should be treated in the same manner as similar reserves supporting traditional life insurance products, that is, additions to the reserves and earnings on them should be tax-deductible to the extent that reserves are required to support benefits under the contracts.

32. Premiums paid, including amounts paid by employers on behalf of employees, and benefits received under long-term care insurance policies and plans should be treated in at least the same manner as medical care benefits for tax purposes. The

idea of treating premiums paid by individuals as partially tax-deductible, apart from the exemption for general medical expenses, should be considered.

33. Federal tax laws should be clarified or modified to remove impediments to employer sponsorship and to funding long-term care coverage as an employee benefit:

a. Long-term care insurance should be a permissible benefit under Internal Revenue Code Section 125 cafeteria plans.

b. Incentives for employers to pre-fund retiree health benefits, including long-term care benefits, that were eliminated in the Deficit Recovery Act of 1984 (DEFRA) should be restored. Specifically, deductible employer contributions to pre-fund retiree medical benefits plans should be allowed to take into account future medical inflation, and the earnings on funds set aside for such benefits should not be taxed if retained in fund.

c. Employers should be allowed to transfer assets from over-funded pension plans to fund retiree welfare benefit plans without penalty or taxation.

34. Individuals should be allowed to make tax-free transfers from vehicles that finance retirement income to buy long-term care insurance. Such transfers should be permitted both before and after retirement and should include transfers from:

a. Pension funds.
b. Life insurance funds.
c. Individual Retirement Accounts (IRAs).
d. Keogh plans.
e. Annuities.
f. Stock bonus and employee stock ownership plans.

35. Retirees should be allowed to transfer a portion of their post-retirement income tax-free to purchase long-term care insurance.

36. The range of financing options should be expanded by allowing funding of long-term care as a contingent benefit under pension plans and life or disability insurance contracts.

37. States are encouraged to offer tax-favored treatment for long-term care insurance in the same manner recommended to the Federal government.

Chairman CHILES. Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

Mr. Bourque, your task force indicated that there were several steps that we ought to take to deal with the long-term care needs of the country, and among those steps you suggested we expand long-term care insurance through employers, and I think that is an admirable goal.

But it appears to me that there is more than just the problem of availability with long-term care.

Now let's take, for example, someone 40 or 50 years old. I will take myself, I fall in that category, and I am not going to tell you which end I am closest to. But let's say I wanted to get a long-term care policy that would pay me $60 a day or $65 a day when I access the policy.

How am I protecting myself, because that is just liable to be a drop in the bucket 20 years down the road, or 30 years down the road when I need that——

Chairman CHILES. Is this going to cover mental disabilities?

Senator SASSER. Well, now, I may find that I am uninsurable in that regard, Mr. Chairman, due to a preexisting problem.

But how is this going to help me? In other words, we see the cost of health care running at about twice the Consumer Price Index for a number of years now, and there I am sitting in the year 2025 but with a $60-a-day long-term care policy, and who knows how much it is going to cost then?

Mr. BOURQUE. Well, there is no question that that has been one of the limitations of private insurance to date, but I think that the insurers recognize that problem because they can forecast themselves what costs are likely to be, and we are beginning to see an enriching of the benefits, sometimes, of course, at a higher cost which affects the affordability issue.

There are plans that offer a $100-a-day indemnity payments for nursing home care, and three-quarters of that, or 50 percent of that if it is home health care.

And there are policies, now, that are starting to come on the market that relate the payment to the cost of that service. Some of the Blue Cross plans are beginning to offer this kind of a benefit.

I think what we are seeing is sort of a second generation of plans that transcend what has typically been the indemnity coverage, and I think that these plans are much more mindful of the extent of coverage, because they realize that to make this more popular they are going to have to provide a more comprehensive benefit.

I think, though, that it also argues that the consumer has got to be much more intelligent about what he or she is buying, and in the employer context I think there is an advantage because the employer is going to select a company that is going to offer a plan that is not going to rip off the employees of that particular firm.

But I think we have to educate at all levels because a lot of this insurance will be sold individually. So, you know, I think the adequacy of benefit issue is being addressed, and will be reflected in the types of policies that are being offered in the future.

Senator **Sasser**. What do you say to my question, Dr. Wiener?

Dr. **Wiener**. I think you have identified an extremely critical problem. A $50-a-day policy purchased at age 35 needs to pay $300-a-day at age 75 to have comparable purchasing power.

While there are a handful of insurance policies now that are offering some index benefits, the bulk of what is out there now is still a fixed-indemnity level, and the group insurance policies—as I am familiar with them at least—currently are not offering any guarantee of indexing of benefits, although they are making some relatively vague promises about being able to buy higher levels of coverage later on.

So I think that is a really critical problem and has rather dramatic impacts on the cost of products purchased at relatively young ages.

In fact an index for inflation insurance policy probably costs four times as one that is unindexed. So what we get is that this inflation that is higher than the general CPI eats up a lot of the interest earnings that you would have on the reserves, that you might normally expect to bring down the price of the policies.

So they stay at pretty high levels even at relatively young ages. The social security actuaries have estimated that a fairly comprehensive nursing home policy, but one that does not cover any nursing home care at all, even at—home care at all—would still cost over $400 purchased at age 30.

Senator **Sasser**. $400 a year?

Chairman **Chiles**. Is that an indexed policy?

Dr. **Wiener**. That would be for an indexed policy at age 30.

Senator **Sasser**. It would be $400 a year?

Dr. **Wiener**. Right.

Senator **Sasser**. Do you want to respond to that, Dr. Rivlin?

Dr. **Rivlin**. Well, I think it just illustrates the basic problem with which we are dealing. It is not that insurance companies for some reasons of their own are not selling indexed policies.

They are beginning to, but there are very good reasons why they have not. There is a very long period over which the inflation accumulates, and when they do begin selling these kinds of policies they will be very much more expensive. There is no way around that.

Senator **Sasser**. Now Dr. Rivlin, you indicated in your testimony—and I assume Dr. Wiener agrees with that testimony—that we need to implement some sort of substantial cost-sharing if we go to a long-term health-care program, in order that we do not drive those people who are presently being cared for at home by relatives into the long-term system.

That is, you do not want to discourage home-care recipients from using the program unduly, but we do not want people to use the program who could be cared for at home, or who might be better off being cared for at home.

Now if we go to the cost-sharing concept, what do we do about those people who cannot afford the cost-sharing? Are we really setting up a two-tier program, one for those who ca afford the cost-sharing, who can get into the long-term care program that is provided under medicare and those who cannot afford the cost-sharing, well, they are just out in the cold, aren't they?

Aren't they still having to stay at home, or work out some other program?

Dr. **Rivlin**. Well, where they are now, they are Barbara's problem. They are now eligible for medicaid. But you can do the cost-sharing in a variety of ways, and we suggest a couple of them. One would be, as in medicare, cost-sharing for all users of long-term care, with co-insurance and deductibles at a moderate rate. Then quite a lot of people would be able to afford the cost-sharing, but some wouldn't and would have to still depend on medicaid. The role of the private sector—as it is with medicare—would be to sell supplementary insurance that would help people who could afford that supplementary insurance to cover those costs.

A more drastic approach might be to have the government agree to start the long-term care benefits only after a long deductible period, say 2 years, and that would be saying to the public—you're on your own for 2 years. If you want to stay off medicaid you're going to have to buy private insurance. That puts a lot of faith in the private insurance industry to come up with products to fill that gap, to protect people against the very considerable costs of having to pay for 2 years of long-term care if they need it.

And that would take some encouragement also by the Federal Government, to open that market up. There would still be people who could not afford supplemental coverage, and one would have to have some provision for them under the original medicaid program.

Senator **Sasser**. Miss Matula?

Ms. **Matula**. Let me tell you there is a great deal of cost-sharing in medicaid. The person in a nursing home who medicaid is helping is only being subsidized by medicaid. We are not paying the whole bill in most cases.

Senator SASSER. You mean medicaid is not paying the whole bill?

Ms. MATULA. Medicaid is not paying the whole bill now. In fact in the——

Senator SASSER. In most cases?

Ms. MATULA. No; in the testimony I submitted in North Carolina, 90 percent contribute some part of their monthly income to the nursing home bill, thus reducing our outlays by about 22 percent.

So this means the poorest of the poor contribute all but $25 of any monthly income they have. This is after they have exhausted their resources to $1,500 for one or $2,250 for a couple.

All of their monthly income except for $25 goes to the nursing home before medicaid pays. When they are receiving care in the home, not only must they exhaust their resources to that same level ($1,500 or $2,250) but their monthly income in excess of one half the poverty level—all that so-called excess income has to be spent on their health care before we will pick up any part of the bill.

So the poor are cost-sharing at a rate which, if it were passed on to middle-income payers, we would all scream. They are cost-sharing quite heavily under medicaid.

Senator SASSER. In other words, the cost-sharing impacts disproportionately on the poor because their resources are so much more meager.

One other thing, Ms. Matula. In your testimony, you indicate that North Carolina's medicaid bill will increase by $41 million if all of the provisions in the catastrophic bill that we passed here in the Congress are approved.

Could you tell us specifically what provisions you are referring to.

Ms. MATULA. The $41 million is the State and local share of the bill. We are talking here, first of all, about the effects of the catastrophic bill to limit the out-of-pocket costs for a medicare beneficiary.

Medicaid pays those out-of-pocket costs for many poor medicare beneficiaries. They are called dual eligibles; they receive both medicare and medicaid.

But we pay their monthly premium, their co-insurance, their deductible, their first day hospital. When you save money for the medicare population, in essence you are saving money for the States, the States who buy that same protection for dual eligibles.

However, there is a provision on the House side that would mandate that because we are realizing savings to the medicaid program, we would be required to now enroll all beneficiaries under 100 percent of the poverty level for this same cost-sharing benefit.

Nationwide, that number balances. In other words, the savings to the States, nationwide, equal the costs of increasing the people they would serve, but on a State by State level the disparity is huge, and the poorer the State, the less apt they are to cover many people.

Therefore, the less apt they are to save dollars, and the more——

Senator SASSER. The less apt they are to what?

Ms. MATULA. To save money from the limits on medicare out-of-pocket expenses, and the more people they will be mandated to cover under the new bill.

That is one of the provisions. The Senate version of that does not mandate that we go all the way up to 100 percent of poverty with the money we saved, but only that whatever we save is passed on in the way of expanded eligibility.

It is a much more even approach. The spousal impoverishment bill will reduce the amount of resources and income that currently now is spent on nursing home care before medicaid picks up.

It will accelerate the time that we will qualify folks and therefore begin paying their bills.

The other provision is the prescription drug mandate. While there is some discussion about a catastrophic benefit for medicare beneficiaries, there is also some consideration of a provision that would require medicaid to pay for those who cannot afford the first $500 or $600 of prescription drugs.

Senator **Sasser**. So at least under the House version, then, poorer States, those lower down on the economic scale, and those would principally be Southern States, would be required to pay more than the other States. They would suffer under the bill, as opposed to the more prosperous States, who would actually prosper.

Ms. **Matula**. Who would benefit, yes.

Senator **Sasser**. That is interesting. I was not aware of that. I am delighted that you have pointed that out, and perhaps we ought to discuss that with the conferees, Mr. Chairman.

Ms. **Matula**. We have surveyed the States and even States whose estimate of savings was rather high are finding that their savings will be much less than predicted.

Senator **Sasser**. I assume my time has expired. Thank you very much.

Chairman **Chiles**. Senator Conrad.

Senator **Conrad**. Thank you, Mr. Chairman.

I would be interested to know from the panelists if they have analyzed the Pepper home health care bill, and if so, general reactions to it; specifically, the potential costs, where substantial cost savings might occur based on changes that we might make and, finally, whether or not the cost-sharing component that is advocated in the testimony of Dr. Rivlin and Dr. Wiener is included in this proposal.

I have asked a lot there. Could we start with Dr. Rivlin? I am very interested in knowing if you have had a chance to analyze the bill and your reaction to those specific areas.

Dr. **Rivlin**. We have had a chance to examine it. I think "analyze" is too strong a word. More coverage for home care seems to us basically a good idea, and so we are enthusiastic about that aspect of it.

But the problem, as you suggest, is the cost. There is no cost-sharing at present in the Pepper bill, and that causes me some worry. I think it is an invitation to over-use.

Now, there are two approaches to guarding against over-use. One is cost-sharing and the other is writing the regulations very strictly. The Pepper bill does suggest that the benefits would only be available to people with two disabilities and, in addition, that there would be case management at the local level to ensure that there was not——

Senator **Conrad**. There would be certification at the local level?

Dr. **Rivlin**. That is right. It seems to be an expensive form of case management. Case management is not cheap itself and it is not easy to predict how successful it would be.

Senator **Conrad**. I take it from your recommendations that your judgment is the more effective way to deal with the problem of over-use is by having cost-sharing provisions.

Dr. **Rivlin**. No; We are so concerned about the problem that we think the answer is both cost-sharing and quite tight regulation, because there really is great potential for increased use of home care, greater potential than for nursing home care.

Mr. **Bourque**. Senator, I think that Dr. Rivlin has really put her finger on some of the problems that I have heard discussed about the bill. I, too, have not analyzed it, but it seems to me that other folks have suggested that the costs may be significantly underestimated in that bill, and we are talking—at this stage, I think CBO has priced it out at something like $23 or $25 billion over the next several years.

I think part of the reason for that has to do with their definitional problems in terms of what constitutes chronic impairment. There is a fairly generous eligibility trigger based on two limitations in activities of daily living as opposed to perhaps three or more.

And I think that the case management structure is a real hope rather than a reality to have these case management systems existing in every State and to expect that they are going to control utilization as effectively as that bill expects.

So it seems to me that it all adds up to perhaps being a bit premature in terms of its design, although everybody recognizes that to move in the home health direction and encourage that over institutionalization is the way to go.

So I would urge the Senate and certainly those who may have to face this in the House, you know, to take a good look at it and see whether we are prepared to take that leap. I mean, perhaps we ought to be demonstrating this in a few States or studying it a little bit further before we leap.

Ms. **Matula**. I think we have some excellent evidence of case management working, and probably we do not need much more demonstration of that, but rather an expansion of that. I would heartily encourage you to perhaps tie your case management into existing State systems, which attempt not only to limit the expenditures, because the case manager is more than the banker.

As a broker for care, the case manager makes sure that the services that are brought into the home are those that are absolutely needed, necessary, and appropriate, and helps that patient find those needed services when often they are at a loss as to where to begin.

So I would not wipe case management away so quickly. Rather, I would say tie into some existing systems that do work and have been proved to work.

Mr. **Bourque**. I did not mean to suggest that we should wipe it away. I think that the future of long-term care delivery rests in case management. I think the insurers believe that if they cannot find effective mechanisms for their own policies to conduct case management that they are going to have a bigger problem than perhaps they realize.

So I am not suggesting that case management is not the way to go. I just question whether it is as effectively in place to handle the several million people that are envisioned to be covered under the Pepper bill, and it may be in a State like North Carolina, but it may not be in some other States or rural areas.

Senator **Conrad**. My great interest is home health care. I am convinced that is the direction that we need to move. I have seen it in my own family repeatedly and I have seen it in families of friends. I am very eager that we start moving in that direction.

At the same time, I am very mindful of what happens on the cost side. I would be interested in a further description if any of you have an outline of how we might proceed.

If you were in a position to draft a bill that would have the potential for acceptance, what would be the elements of that legislation? As I hear you, it would be tied into the medicare system, involve home health care. You would have cost-sharing; you would have tight regulations.

What other key elements would be present in legislation that would be sensitive both to the problems of the elderly and to the fiscal crisis that we confront? What other mechanisms or principles ought we keep in mind in putting together legislation?

Dr. **Wiener**. Well, let me just mention two. One which is currently in the Pepper bill now but I think needs to be made somewhat tighter is that there is a per-person cap on total expenditures on a monthly basis.

I think it is currently set at too high a level, but I think the principle——

Senator **Conrad**. What is that? Do you recall the number?

Dr. **Wiener**. It is set at about two-thirds of the monthly cost of a medicare skilled nursing facility, so we are probably talking—that is, the monthly cost of a medicare skilled nursing facility nationwide is probably close to $3,000.

Senator **Conrad**. So it would be $2 thousand, in effect, right?

Dr. **Wiener**. Right, $2,000. That is probably too high and needs to be reduced.

I think the other basic principle is that we need to make sure that we cover, I think, a fairly wide range of non-medical services, and in a trade-off between restricting the number of people and restricting the type of services, I would rather go in the direction of serving a smaller number of very severely disabled people, but provide the tools that are needed to serve those people.

Senator **Conrad**. Let me just follow up because I am very interested in this question. The way the Pepper bill is designed, if you have problems in two areas or more, you would qualify. Toileting, bathing—these are the kinds of things that are included.

Is that the correct way to proceed, in your judgment, based on the studies that you have done, or is there another formula that ought to be the basis for this kind of legislation?

Dr. **Wiener**. Well, I think the activities of daily living is basically the way you should go. Depending on how much money you are willing to spend, you can set the criteria at whatever level you like.

The activities of daily living are fairly widely accepted in the long-term care area by gerontologists. The area of cognitive impairments where Alzheimer's patients would most fall is a bit fuzzier, but there are a variety of measures possible there, too.

So I think that is generally the right direction. Again, you need to decide how much money you are willing to spend, and I think you can carve out an eligible population that would meet that criteria.

Mr. **Bourque**. Senator, to highlight the dilemma you face in terms of the cost problem, I have seen statistics that suggest that under the current medicare program, the home health benefit has been certainly the most rapidly expanding benefit, I think, from about $100 million to $2.5 billion in about a 10-year period, I think 1975 to 1985, and that is with very strict prior institutionalization criteria.

You have to have been in a hospital for 3 days in order to even become eligible for that benefit, so you have a real tight trigger, which I think, by the way, may be removed under the new catastrophic legislation.

So you have a benefit that is very, very attractive to everybody, and so I think maybe the emphasis needs to be on the trigger point, the ADLs, and whether it is two or three or some combination, and then, of course, the implementation of good case management to make sure that the right array of services to suit that particular circumstance and individual are there.

Senator **Conrad**. There is one other area of concern. All of this is aimed at the patient. One of the things that I have observed is there are many families who would be willing to take care of an elderly relative, but they need a little break.

They need to be able to get out and go shopping, get out and go to a movie, maybe get help bathing the person. Of course, that would go to the condition of the patient, but we are not talking at all about the condition of those people who care for the patient.

I am wondering if anybody has looked at the return that could be derived from keeping people at home if a little assistance is given to the caretakers.

Ms. **Matula**. You are referring to respite care.

Senator **Conrad**. Right.

Ms. **Matula**. The reason you will not find too many studies of the effect is because respite care is really not a payable service under medicaid, although folks are trying to work it into their waivers.

But it certainly is a way to continue to keep family responsibility alive when we know we cannot legislate it, and certainly under some strictly defined conditions I think it would be a cost-effective route.

In our waivers we do not rely on ADL's alone, but rather the risk that a person faces of going into a nursing home, and you are right; that measures only his or her condition and not the level of frustration and inability to deal with that patient that the family members may be undergoing. With dollar limits and with defined conditions, I think you would find it cost-effective.

Senator **Conrad**. Any other reactions to that? I have watched this firsthand in my own family where at some point if family members who are caring for the elderly relative do not get a break or do not get help, you know, somebody loses control of the bladder and that kind of thing.

If there is a little bit of help, they can keep them at home, but if they do not have that little bit of help, the nursing home becomes the only alternative.

Mr. **Bourque**. I am not aware of any studies, Senator, but I think you are absolutely right. If the numbers are true that the vast majority of those who have activities of daily living limits and who are disabled are indeed at home and being cared for by others, I think we really ought to spend some time looking at that particular problem.

Here, again, maybe some tax incentives to those individuals——

Senator **Conrad**. No tax incentives.

Mr. **Bourque**. No tax incentives?

Senator **Conrad**. No tax incentives. We have had a problem with tax incentives around here.

That is the end of my questions. Thank you very much.

Senator **Sasser**. Thank you, Senator Conrad.

One final question. Dr. Rivlin, in your testimony you indicated that the real income—that is, the income level collected for inflation of the population age 65 through 74 will more than double over the next 30 years.

And you indicated that those aged 85 and over, that our income will grow 17 percent in real terms; that is, corrected for inflation, or 17 percent above inflation. Yet, you also say that the long-term care costs are going to rise faster than the income of the very elderly.

Now, we are talking about their real incomes doubling over the next three decades, those aged 65 to 74. We are talking about those 85 and above, their income going up 17 percent above inflation. Yet, they are going to be worse off because long-term care costs are going to outrun this real increase in their income to real increase in their purchasing power. Why is that?

Dr. **Rivlin**. Well, it is because the cost of long-term care rises about as fast as wages do. Most of the cost of care is wages, and so we anticipate that the cost of long-term care will go up at least as fast as real wages generally; that is, the real wages of the working population.

Now, the incomes of the elderly have been going up and will continue to go up, and the group that is the baby boom generation—there are a lot of them, but they all—males and females both work and they will end up with quite high pension benefits when they retire.

But the group that is going to be the biggest long-term care population for the next three decades have not done that. You said what age group you were in. That is my age group.

Senator **Sasser**. Well, I gave you roughly the age group. [Laughter.]

Dr. **Rivlin**. I am in the 50 to 60 age group, and I will not tell you where either. We are the ones who are going to be 80 to 90 in 30 years and we already have our income patterns pretty well set. Our group's income is not going to go up as fast as the younger group, and not as fast as the cost of care. That is part of the problem in the near term.

Senator **Sasser**. Dr. Wiener?

Dr. **Wiener**. Just one additional factor for that. While social security is fully indexed for inflation, in fact, pensions are not, and the average pension gets a lot of ad hoc increases, but on average it increases only about half as fast as the CPI.

So that means, over 20 years, that is a significant erosion of the purchasing power. So people may have pensions, but again it may not be worth quite as much when they hit 85 or 90 and actually are in a position to enter a nursing home.

Senator **Sasser**. Well, thank you very much.

Ms. Matula, you indicated a moment ago—I want to come back to this business about under the catastrophic health care bill that passed at least the House of Representatives, about lower-income States or those States lower down on the economic scale losing and having to pay more.

We did some quick calculations here and we think that my native State of Tennessee may be a $40 million loser.

Ms. **Matula**. In fact, Tennessee Medicaid folks say that they might have to pull back on their pregnant women and children expansion if they are forced to pay this higher cost.

Senator **Sasser**. Well, I am delighted that you called this to our attention, and we are going to speak very strongly to the Senate conferees and tell them to hold the line on the Senate position on this, because the last thing that we need with some of the lower-income States who are not doing all that needs to be done now—perhaps they are doing all that they can do, but not doing all that needs to be done in the field of catastrophic health care—is to have an additional burden that would mean they have got to narrow the coverage.

Well, I want to thank our panelists for being here today. I think you have made really a very substantial contribution to our understanding of this very serious problem, and I think you have added considerably to the knowledge of this committee and to the Senate as a whole as we try to strive to find some way to solve this problem that on occasion seems to be unsolveable, given the fiscal resources that we have got to work with.

Thank you very much.

[Whereupon, at 4:32 p.m., the committee adjourned, to reconvene at 10 a.m., Friday, March 18, 1988.]

STATEMENT SUBMITTED FOR THE RECORD BY DANIEL P. BOURQUE, CHAIRMAN, TASK FORCE ON LONG TERM CARE POLICIES U.S. SENATE BUDGET COMMITTEE

March 17, 1988

I appreciate this opportunity to submit for the record highlights of the report and recommendations of the Task Force on Long-Term Health Care Policies.

The Task Force was established by section 9601 of the Consolidated Omnibus Budget Reconciliation Act of 1985 (P.L. 99-272) and was charged with developing recommendations concerning:

- Responsible marketing and agent sales practices.
- Dissemination of adequate information to allow informed consumer choice and reduce purchase of duplicative coverage.
- The relationship between premiums charged and benefits provided.
- The development and availability of long-term care insurance policies.

The law provided that the 18 member Task Force include two Insurance Commissioners, three Federal and State officials of agenices responsible for health or the elderly, three representatives of private insurers, three representatives of organizations of consumers or the elderly, three providers of long-term care services, and four additional members chosen by the Secretary. Attached is a list of members.

The challenge of meeting the needs of the disabled and chronically ill members of our population requires immediate attention. The members of our Task Force came from very different backgrounds and views. While we were not unanimous in all our recommendations, we did reach a consensus on almost every recommendation we have made and we were all clearly in agreement about the need to develop private long-term care insurance as a major means of addressing the financing of long-term care services.

During the Task Force's deliberations, and subsequent to our recommendations, the development of long-term care insurance has been moving forward. However, only about a half million individuals currently have coverage and few individuals presently under the age of 55 have the protection of long-term care insurance.

We believe that both the public and private sectors should immediately take steps to encourage the expansion of private financing for long-term care services through long-term care insurance. The heigtened awareness of the need for financial protection against the potentially ruinous costs of long-term care services makes this an ideal time for real growth in long-term care insurance coverage.

We believe immediate Federal action is necessary to provide an appropriate basis for lowering insurance premiums through the development of employment-based long-term care insurance. Not all people will be able to afford insurance, but employer-sponsored insurance is a most attractive means of reaching large numbers of those who can.

Furthermore we believe Congress should strongly consider appropriate Federal tax incentives that are broadly based, and significantly encourage the purchase of long-term care insurance. We have attempted to suggest several such incentives which we believe will encourage people to purchase long-term care insurance.

The Congress has an important role to play in addressing three of the four most significant barriers the Task Force found to the development of the market. They are (1) a lack of understanding of the need for specific protection for long-term care services, (2) a lack of availability of long-term care insurance through employment, and (3) a lack of appropriate tax incentives.

The Task Force calls on Congress and the Administration to move forward with all deliberate speed to promote the development of private long-term care insurance. The private market needs time to develop and the sooner we begin the better.

Hopes for a public/private-partnership for the financing of long-term care services depends on first establishing a strong private market for long-term care insurance. A major expansion of public programs before the private market is in place could significantly discourage the development of the private market. The Task Force offers its recommendations as a blueprint for more rapidly developing and expanding a private system for financing long-term care.

Specifically, the Task Force calls for seven practical steps to be taken immediately;

- Provide information that Medicare, Medigap, and acute health care insurance do not cover long-term care.
- Encourage States to adopt the National Association of Insurance Commissioners' Long-Term Care Model Act.
- Develop long-term care insurance through employment.
- Develop long-term care insurance through vested pension plans and other retirement savings.
- Use the Federal and State tax codes to encourage the development of long-term care insurance.
- Encourage new approaches for determining eligibility for long-term care insurance benefits.
- Encourage greater cooperation in the collection and sharing of long-term care data.

Scope of the Problem

Long-term care is not just a problem for older persons nor is it just an issue of financing nursing home services. Our data are better in these areas but we expect 40 percent of nursing home residents to be under 65 in the year 2000. We also know that only about 29 percent of the elderly with disabilities are in nursing homes. While the specifics which follow are for the most part based on nursing home and elderly statistics, they are included to illustrate the problem and not to imply that long-term care is only an institutional based elderly problem.

Direct out-of-pocket expenditures for nursing home care constitute the largest single health care expense for persons age 65 and over. They accounted for 42 percent of total out-of-pocket health expenditures in 1984 compared to 5.6 percent for hospital care. Furthermore, eighty-one percent of out-of-pocket health care expenditures in excess of $2,000 for those age 65 and over is for long-term care.

Based on population projections, the increased utilization of long-term care services will cause a long-term care financing crisis. Currently 6.6 million people are estimated to be in need of long-term care services. This number is expected to increase to 19 million in 2040. Between 1985 and

2000, the 65 and over population is expected to increase by 22.4 percent. For this same period the 85 and over age group will increase by 90.4 percent, and the long-term care service needs of those 85 and older are considerably greater than those aged 65-74. This trend has serious cost and utilization implications. Although approximately five percent of older persons reside in a nursing home at any given time, the individual's risk of entering a nursing home is much greater.

According to one study, the likelihood of people ages 65 to 69 entering a nursing home at least once during the next five years is about five percent, whereas this same age group stands about a 43 percent risk of entering a nursing home during their remaining lifetime. Similarly, persons in the 75 to 79 age category face about a 16 percent risk of being admitted to a nursing home during the next five year interval, yet they will experience a 48 percent lifetime risk of entering a nursing home. The probability of entering a nursing home increases with age until age 80.

A person confined to a nursing home spends an average of $22,000 per year and is likely to be financially devastated in a short period of time. In addition to the high cost of financing institutional care, disabled and older persons living in the community will need long-term care services if they are to remain at home. Only 29 percent of disabled older persons reside in an institutional setting. Those in nursing homes are generally more disabled than dependent elderly in the community, but for every older person 65 years of age and over residing in a nursing home, there are two people living in the community who are equally disabled.

The Viability of Long-Term Care Insurance

The high cost of long-term care and the demographics of an aging population make "pay-as-you-go" financing far less desirable than prefunding for long-term care needs. Furthermore, few individuals have the capacity to finance an extended nursing home stay or other long-term care services entirely out of their assets and income. Many people, however, may be able to provide for nursing home and other long-term care needs through the purchase of long-term care insurance.

Private long-term care insurance offers the potential of financial protection by replacing significant amounts of direct out-of-pocket expenses. It provides an individual the opportunity to develop a planned response to a potentially ruinous event. Because of the efficiencies of risk pooling and the internal build-up of accumulated reserves, insurance provides the most cost efficient means of meeting financial risks that are too great a burden to bear alone.

Private long-term care insurance cannot provide a total solution for financing long-term care services. Indeed, studies suggest that a significant number of people are not likely to be able to purchase long-term care insurance, including some who now "spend down" to qualify for Medicaid. Others will find themselves uninsurable for health or age reasons. Public programs, such as Medicaid, should continue to be available for those in need.

At the same time, there are large numbers of people who can and should provide for their own future needs. The viability of long-term care insurance is directly related to 1) whether the premium is affordable, and 2) whether the product is designed to meet the needs and desires of consumers. Computer microsimulation modeling done for the Department of Health and Human Services shows that by the year 2018, 63 percent of those over age 65 could own some type of a long-term care insurance policy if premium costs for those under 65 did not exceed 1 percent of income and premium costs for those over 65 did not exceed 3 percent of income.

The number of people able to purchase insurance would increase if the purchase were made at younger ages when premium costs are lower. For example, the cost of insurance could be reduced by taking advantage of a Task Force proposal to use a part of vested pension funds during one's working years to purchase long-term care insurance or by using other methods to encourage the offering and purchase of long-term care insurance in the work place. Beneficial tax treatment can also reduce the cost of insurance and help make both individual and group policies more affordable at all ages.

The Task Force members agreed that a broad market for long-term care insurance can and should be developed. No other private financing mechanism appears to offer a more cost effective and viable means of meeting long-term care costs.

The fact that over 500,000 long-term care insurance policies are now in force and many insurance companies have entered, or are planning to enter the long-term care insurance market suggests an industry consensus that a real potential for such insurance does exist. The increase in the number of individual policies purchased during the term of the Task Force and the development of group long-term care insurance products is a clear sign that interest is growing in the marketplace. Recent public discussion on the subject of long-term care coverage has undoubtedly contributed to increased demand and has led to the development of group policies and of several policies with home care options and without such utilization controls as prior hospitalization as a prerequisite for the receipt of long-term care benefits.

The real potential for financing of long-term care through insurance will be demonstrated as marketing increases and the exposure that each person faces becomes well known. Finally, the development of long-term care insurance available through employment is critical to the successful development of the market. It is through this mechanism that the market can grow most quickly and the age of purchase reduced.

The Task Force adopted 41 recommendations which we believe will help promote the development of private long-term care insurance and at the same time provide protection for consumers. Following is a discussion of seven major recommendations that our Task Force agreed should be implemented.

The Need for Education

There is a very real problem of convincing people that they need to prepare for the possibility of becoming so chronically ill or otherwise disabled that they will become dependent on others for their care. Consumers need to be more aware of 1) the absence of long-term care coverage under Medicare, Medicare supplement insurance, and most acute care insurance and prepaid health programs; 2) their lifetime financial exposure to the costs of long-term care; 3) the range, cost, and availability of long-term care insurance products; and 4) the advantages and limitations of various insurance features. In particular, the Federal government has a responsibility to inform its beneficiaries that Medicare does not cover long-term care services.

Medicare does cover some post-acute care in skilled nursing facilities and in the home, but the services covered are so limited that only two percent of the costs of nursing home care are paid by Medicare. Many people, however, believe Medicare will cover their long-term care needs or they confuse payments made by State Medicaid programs with Medicare. The expanded skilled nursing facility and home health service benefits included in the catastrophic legislation could further confuse the issue.

The Federal government has the responsibility to educate Medicare beneficiaries that intermediate and custodial long-term care services are not covered by Medicare. Such services also are rarely covered by Medicare supplement insurance policies and most regular health insurance policies.

There are complexities in properly educating people about the distinction between post-acute care services, which are covered by Medicare,and long-term care services which are not. The Department of Health and Human Services is reviewing its publications to reflect the distinction accurately. The Department will need to clarify existing coverage and the need to obtain private coverage for long-term care through direct beneficiary mailings and publicity campaigns.

Consumer Protection

The National Association of Insurance Commissioners adopted the Long-Term Care Insurance Model Act in December 1986. The Model Act is a major advance in the development of the long-term care insurance market because it provides a clear indication of the role State governments will play in regulating long-term care insurance. The Model Act has now been adopted (with modifications) by ten States and during 1988 at least another dozen States will consider its adoption.

The purpose of the Model Act is to promote the availability of long-term care insurance, protect purchasers from unfair or deceptive sales or enrollment practices, establish standards for such policies, facilitate greater public understanding and a basis for comparing long-term care insurance policies, and to provide flexibility and innovation in the development of insurance coverage for long-term care services. Various aspects of consumer protection addressed in the Model Act include the full and fair disclosure of performance standards including:

- terms of renewability, termination, continuation or conversion, and probationary periods,
- conditions of eligibility, treatment of preexisting conditions, limitations, exceptions, elimination periods, requirements for replacement, and recurrent conditions,
- nonduplication of coverage,
- coverage of dependents, and
- definitions of terms.

The Task Force considered and adopted a motion to recommend to States the passage of the Model Act with one modification: the circumstances under which an insurance company can cancel a long-term care insurance policy. At issue is the balancing of protections for policyholders with the concerns of insurance companies that they are entering a new and experimental area where risks are largely unpredictable.

The Task Force agreed that individual long-term care insurance policies should only be cancellable upon approval by an Insurance Commissioner. An Insurance Commissioner should be able to permit cancellation by group or class only under very limited circumstances. An insurance company would have to demonstrate severe conditions such as 1) it was in such serious straits that premiums would have to be raised to unaffordable levels or the company will be forced into bankruptcy, or 2) all persons insured were provided a like or better policy with a new company or 3) changes in Federal or State law make it necessary to cancel a group or class of policyholders, or all policyholders. Insurance Commissioners should also require that information on the renewal and cancellability of long-term care insurance policy be disclosed on the face of the policy.

The NAIC Model Act and regulations establish a loss ratio standard for long-term care insurance policies. The Task Force studied the problem of ensuring a reasonable relationship between premiums and benefits and believed that the use of loss ratios in the absence of experimental data on which to base them only would illusory consumer protection. An apparently favorable ratio may give consumers a false sense of security. Establishing that long-term care insurance policies provide reasonable value will require a careful review of such policies by Insurance Commissioners and a continuing effort by insurers and Insurance Commissioners to develop and apply actuarially sound measures.

Using Need Assessment in Determining Eligibility for Insurance Payments

Long-term care insurance must define an entry point of eligibility for benefits which is clear to the insured, not too complicated to administer, and reasonably consistent in its application. The Task Force believes that need assessment systems based on activities of daily living offers a better basis for determining eligibility for benefits than level of care determinations which have traditionally been used to distinguish eligibility based on the need for skilled, intermediate, or custodial care.

A need assessment system determines the extent to which an individual is dysfunctional in performing activities of daily living, i.e., toileting, bathing, eating, ambulating, dressing, etc. Establishing levels of dysfunction can also be used to establish a level of need for long-term care services.

Long-term care insurance is likely to cover nursing home stays at several levels of institutional and noninstitutional care, and experience with the Medicare program indicates that nursing home placement using level of care varies widely. Also, insurers often provide coverage in a number of States and the level of care provided by nursing homes in different States varies greatly.

The advantages of shifting to a need assessment system as an eligibility standard for long-term care insurance are as follows:

- Need assessment provides a more objective basis for determining eligiblity for benefits.
- It provides a basis for consumers to compare insurance coverage and insurers to establish risk exposure.
- It avoids conflicting definitions of levels of care from State to State.
- It ensures equal need of care whether it is provided in the home, in a community setting or in an institutional setting.
- It encourages a managed care concept.

Employer-Based Long-Term Care Insurance

Almost all long-term care insurance is sold today on an individual basis to people over 65. Higher risk for older age groups and higher administrative and sales costs for individual policies increase premiums and narrow the potential market. Offering long-term care insurance to working age people through their employment is an effective means of making it available, attractive, and affordable to large groups.

There are many advantages for employees, retirees, and employers of combining employment sponsorship with appropriate tax advantages:

- o Employees would gain the advantage of group insurance rates, making financing of long-term care affordable for a much larger number of people.
- o They would benefit from tax-free interest accumulation in the insurance policy.
- o They could gain further tax benefits of the payout of pension benefits used for long-term care insurance if it were not taxed.
- o They could more easily buy coverage at an age when they are less likely to be excluded for health reasons.

- They would be covered during their working years, as soon as they began paying premiums.
- They could protect their spouses.

Tying Long-Term Care Insurance to Pensions and Other Post-Retirement Savings

The Task Force developed a proposal that would permit employees the option of directing a portion of their vested pension benefits, including IRAs, to purchase long-term care insurance. Under this proposal, individuals would be allowed to make a tax free transfer of vested funds in pension plans, IRAs, and other retirement programs in order to purchase long-term care insurance for the individual and his or her spouse. The long-term care benefits paid by the insurance would be excluded from income for tax purposes. The build-up of the reserves under the insurance contract would not be taxed just as it is not taxed in the pension fund. All individuals who have a vested retirement account (IRA, Keogh, 401(k), etc.)--whether or not it is employment based--would be eligible to make such transfers both before and after retirement. This proposal is one method of establishing employment-based long-term care insurance. Life insurance policy and/or disability policy conversion, expanded basic health care coverage, and a broadened spectrum of cafeteria plan options are also important approaches.

The value to the employee of participating in this type of program is in significantly reducing post-retirement premium levels. The tax free internal build up of long-term care insurance pools and the lower premiums for purchasing at a younger age result in a smaller reduction of post-retirement income than if an individual were to wait to purchase insurance until after retirement. While concerns have been stated that pensions are not adequate to redirect a portion of retirement benefits for the payment of long term care insurance premiums, this argument essentially questions the potential of private insurance as a viable method of financing long term care services for working class people. As pointed out earlier, not everyone will be able to afford long-term care insurance. For those who are capable of financing all or some of this potential cost, long-term care insurance - especially purchased through employment - is the least expensive and most viable means available.

Other Tax Incentives

The Task Force agreed that Congress and the State legislatures should seriously consider tax incentives that are broadly based and significantly encourage the purchase of long-term care insurance.

A central tax issue to be resolved regarding long-term care insurance is the tax treatment of reserves. Level premium, long-term care insurance policies accumulate reserves to pay accruing future liabilities in the same way as life insurance policies and should receive the same tax treatment. Treasury officials have stated verbally that long-term care insurance policies should receive similar treatment, but until the Treasury Department issues an official opinion, the Task Force supports legislation to make long-term care reserves and earnings on them deductible by insurers to the extent that these reserves are required to support benefits under the contracts.

The Task Force believes that long-term care insurance should be given tax-favored status in the tax code as a new entity. Specifically, in the case of individually purchased long-term care insurance, premiums should be deductible and benefits should be excludable from the incomes of individuals to the extent allowable under current law for medical benefits. In the case of employer funded plans, the value of the insurance coverage and the benefits received should be excludable from the income of employees.

Improving the Quality and Availability of Actuarial Data

There is little question that good data are essential to the development of actuarially sound long-term care insurance policies. The lack of timely reliable data on the utilization and patient characteristics of long-term care users has been a significant obstacle to market development. To provide the necessary data base, efforts need to be made by the Federal and State governments and the insurance industry.

Federal and State data should be released as quickly as possible, with necessary caveats regarding validation. In planning new surveys on long-term care, the Department of Health and Human Services should consult with the insurance industry, consumer and advocacy organizations, the National Association of Insurance Commissioners, and the States on the types of questions that might be helpful in developing long-term care insurance policies and understanding other financial concerns such as depletion of assets.

The States are a major source of long-term care data and some States have begun to collect individual patient data. The Task Force recommended that States cooperate in the exchange of data in order to provide a more comparable data base, which in turn, could be useful in studying the Medicaid "spend down" issue as well as marketing long-term care insurance policies.

TESTIMONY AND FACT SHEET SUBMITTED BY

HEALTH INSURANCE ASSOCIATION OF AMERICA

March 1988

FINANCING LONG-TERM CARE: A SHARED RESPONSIBILITY

I. THE LONG-TERM CARE PROBLEM:

In 1986, HHS Secretary Otis Bowen identified long-term care as "the most likely catastrophic illness risk facing Americans."

- Today, HHS indicates that the lifetime risk of entering a nursing home is between 20 and 45 percent. For the elderly who spend more than $2,000 a year of their own money on health care, 80% goes to nursing home care.
- The middle class elderly often become impoverished by the cost of long-term care and find themselves on Medicaid, a program designed for the poor.
- In 1987, nursing home care cost approximately $41.6 billion, the bill paid almost entirely by Medicaid or out-of-pocket by the elderly.
- Alternatives to nursing home care are limited and can be costly.

II. THE NEED FOR PRIVATE LONG-TERM CARE INSURANCE:

Promoting the private market could reduce public spending on long-term care.

- The long-term care insurance market is in its early stages of development, but it is growing rapidly. The number of companies selling long-term care policies has jumped from about 20 in 1983 to some 80 in 1988.
- Today, HIAA member companies are offering long-term care policies in all 50 states.
- The number of policyholders has grown from 120,000 in 1983 to over 500,000 in 1987. This number will continue to grow rapidly as the products become more widely available and the elderly become more aware of the need for this coverage.
- For the first time in 1987, a number of insurance companies introduced employer-sponsored group long-term care insurance. These plans have attracted enrollees primarily in their mid-forties, which indicates that such that group policies have wide appeal to those under age 65.

- A recent survey of large companies by the Washington Business Group on Health reports that nearly two-thirds of them have investigated or plan to investigate offering a long-term care insurance benefit for their employees and retired workers.

III. MAKING LONG-TERM CARE INSURANCE MORE AVAILABLE AND AFFORDABLE:

The federal government should create a more supportive tax environment for long-term care insurance contracts. For example:

- Clarify that long-term care insurance reserves and the investment earnings credited to them are deductible so that reasonable premiums can be maintained.
- Give long-term care insurance the same tax status as health insurance with regard to the premiums paid and benefits received under individual and group long-term care contracts.
- Promote employer sponsorship of long-term care insurance as an employee benefit by removing restrictions that inhibit prefunding of retiree health benefits and by permitting long-term care insurance as a cafeteria plan benefit.
- Allow individuals to make tax-favored transfers from life insurance or annuity contracts, IRAs and defined contribution plans to buy long-term care insurance.

Public policy should be targeted at developing the private long-term care insurance market by considering legislation that would make private insurance more affordable, especially for today's elderly. For example:

- Consider an age-graded tax credit for current elderly who buy long-term care insurance policies.
- Support research and demonstration projects that would modify Medicaid spend-down requirements so that people have an incentive to purchase private long-term care insurance. (The Robert Wood Johnson Foundation has given several states grants to support such experimental projects.)

The federal government and the private sector must continue to work together to educate the public, especially Medicare beneficiaries, about their potential need for long-term care.

IV. THE ROLE OF THE FEDERAL GOVERNMENT:

The public sector should help those who cannot afford to protect themselves and those who are already disabled and so ineligible for private coverage. To this end, Medicaid should be reformed by:

- Covering all elderly up to the poverty level and providing uniform benefits in all states.

- Raising the personal needs allowance (currently $25/month) for nursing home residents.

- Protecting a spouse from impoverishment if the other spouse is institutionalized.

- Widening the eligibility criteria for home and community-based care programs and giving support to informal caregivers to reduce nursing home use.

- Providing adequate reimbursement for nursing home care to assure high quality care and access to that care.

- Removing current incentives that encourage the elderly to divest themselves intentionally of their assets to become eligible for Medicaid.

- Supporting state projects and research that analyze public-private long-term care partnerships.

The HIAA does not support a federally financed insurance program to fund the nation's long-term care bill.

- Annual federal and state spending on long-term care was $24.5 billion in 1985. Most experts believe that this figure could double under a federal entitlement program. Given today's fiscal realities and national priorities, the country cannot afford such an expansion.

- Financing long-term care is only part of the problem. The current delivery system for nursing home and home health care is fragmented. Furthermore, the most effective case management models to contain costs and to manage home health services have not been determined. And, data on long-term care use, especially home health care, are inadequate for understanding the current and future utilization and costs of long-term care.

- It has not been established that most Americans want a federally funded insurance program for long-term care, especially if they understand the public and private insurance options and the costs of these programs.

The HIAA does not support federal stop-loss and reinsurance proposals currently being discussed by several members of Congress.

- These financing proposals will not stimulate a private insurance market, since their presumed advantages do not, in fact, promote affordable long-term care products. For example:

- In long-term care insurance, the cost of the premium is determined more by the age of the prospective policyholder than by the duration of coverage. Public policy, therefore, is better directed toward offering people encouragement to purchase long-term care insurance at younger ages, especially through employer-sponsored group plans.

- A public policy that would supplement private insurance policies would essentially require that all private products be identical. Mandating uniformity at this early stage in the evolution of long-term care insurance would inhibit rather than stimulate the development of different types of products to meet different consumer needs.
- Private insurers can seek stop-loss coverage through the private reinsurance market that has already been established for these products. Insurers, therefore, are not asking for help from the government.

V. CONCLUSION:

Solving the problem of long-term care financing will cost money, regardless of whether a public or private solution is chosen. The HIAA believes that state and federal policies that help Americans to protect themselves against the cost of long-term care could ultimately reduce public expenditures for this kind of care. There is every reason to believe that over time, the majority of Americans could be covered by private insurance. Governments should look for ways to enable the largest number of Americans to benefit from these private alternatives and, at the same time, improve the safety net for those who must rely on government assistance.

###

HIAA

Health Insurance Association of America

LONG-TERM CARE

FACT SHEET

1987

Source: Task Force on Long-Term Health Care Policies
Department of Health and Human Services

DEPARTMENT OF HEALTH & HUMAN SERVICES
Health Care Financing Administration

Task Force on
Long-Term Health Care Policies

Room 4406 HHS Building
330 Independence Avenue, S.W.
Washington, D.C. 20201

FACT SHEET ON LONG-TERM CARE

April 8, 1987

The data included in this paper is derived from different sources. It reflects an attempt to use the most current and reliable data available in early 1987. Thus the data represents different years and is not always directly comparable. It is hoped that this data, taken as a whole, will fairly describe the status of those receiving long-term care.

I. DEMOGRAPHICS

A. SIZE OF THE ELDERLY POPULATION

1. In 1984, 28 million people were over age 65; representing 12% of the total population.
2. By the year 2030, 65 million people will be over age 65; representing 21.2% of the total population.
3. By the year 2030, 8.6 million people, 2.8% of the population, will be over the age of 85 compared with 1% of the population in 1980.

B. AGING OF THE ELDERLY POPULATION

1. Between 1980 and 1990 the age 75-84 cohort will grow twice as fast as the 65-75 cohort.
2. Between 1990 and 2010 the age 85 + cohort will grow 3-4 times as fast as the general population.

C. ECONOMIC STATUS

1. The portion of elderly living below the poverty line has decreased from 25% in 1969 to 12% in 1984.
2. Poverty rates remain higher among elderly women, persons who live alone, the oldest old (85 +) and minorities.
3. In 1984, the average income of elderly families was $26,000; for unrelated elderly individuals, the average income was $10,000.

D. HOME EQUITY

1. In 1984, 75% of the elderly owned their homes, and about 83% of this group owned them free and clear.
2. U.S. Census figures indicate that the average home equity for persons aged 65 and over was $54,700 in 1984.

II. LONG-TERM HEALTH CARE NEEDS

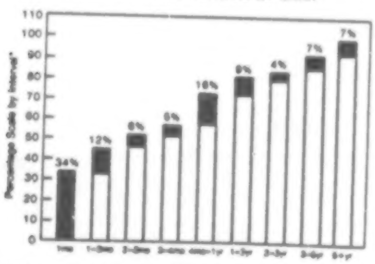
A. In 1984-85, of the total US population, age 15-64, 14.1% had some limitation not requiring institutionalization.
   — Of this group, 6 million (3.9% of the total US 15-64 population) had severe limitations.

B. Of the 28 million elderly (65 +) people in America (1984), approximately 21% (6 million) had long-term care needs (nursing home residents plus LTC population in the community).
   1. 29% of the elderly with long-term care needs are in nursing homes.
   2. 71% live in the community with help.

C. NURSING HOME USE

1. NURSING HOME ADMISSIONS
    - a. The lifetime risk of entering a nursing home is between 20%-45%.
    - b. Between 75% and 80% of nursing home admissions follow at least a 3 day prior hospitalization.
    - c. Admissions per 100 beds dropped from 98.4 in 1977 to 80.5 in 1985.
    - d. Occupancy rates have risen from 89.0% in 1977 to 91.6% in 1985.
    - e. In 1985 admissions exceeded discharges by 5.8%.
    - f. In 1977 admissions exceeded discharges by 18%.
2. PERCENTAGE OF POPULATION
    - a. In 1985, 1.5 million, or 5% of the elderly population resided in nursing homes.
    - b. The projected percentage of the elderly in nursing homes will rise to 8.8% between 1986 and 2000, then fall to 8% by 2018.
3. PERCENTAGE OF THE ELDERLY AGE GROUPS IN NURSING HOMES (1985)
    - a. 2% of the 65-74 age group were in nursing homes.
    - b. 6% of the 75-84 age group were in nursing homes.
    - c. 23% of the 85 plus age group were in nursing homes.
    - d. By 85 years of age, 61% of those with ADL (Activities of Daily Living) limitations are in nursing homes.
4. LENGTH OF STAY
    - a. Average length of stay is 456 days.

NURSING HOME LENGTH OF STAY



*SOURCE: 1977 Nursing Home Survey

5. DEMOGRAPHICS OF NURSING HOME PATIENTS
    - a. The median age of nursing home residents is 81 years
    - b. 71% are female
    - c. 62% are widowed
    - d. 19% have never married
    - e. 12% have a living spouse
    - f. 7% are divorced or separated

D. COMMUNITY CARE USE

1. NEEDS
    - a. Approximately 14% of the elderly living in the community have limitations in activities of daily living.

   b. 2.6% of persons age 65-74 need assistance with personal care.
   c. 31.6% of persons age 85 and older need assistance with personal care.
2. LIVING ARRANGEMENTS
   a. Two-thirds of those in the community with long-term care needs require considerable help because they are disabled in essential activities of daily living.
   b. 11% of these disabled elderly persons live alone.
   c. 39.5% live with their spouses only.
   d. 36% live with their children.
   e. 14% live in other arrangements.
3. SOURCE OF ASSISTANCE
   a. Fewer than 15% receive their care from formal services.
   b. 70% of the elderly disabled living in the community receive all their care informally from family and friends.
   c. The remainder receive all their care through some combination of formal and informal services.

CHARACTERISTICS OF INFORMAL CARE GIVERS

Relatives represent 84% of all caregivers for males and 79% for females.

Competing demands appear to be a problem for many informal caregivers. About one-fourth of the daughters and one-third of the other caregivers have competing family obligations.

Sources of Help for Elderly Persons with Activity of Daily Living (ADL) Limitations (1985).

Sources of Help	Percent of persons receiving help provided by specified source *
Informal Systems	
Spouse	35.6%
Daughter	32.6%
Son	17.1%
Female Relative	14.2%
Male Relative	8.1%
Daughter-in-law	7.8%
Female friend	7.5%
Son-in-law	4.7%
Sister	4.5%
Male friend	3.0%
Other unpaid person	2.4%
Brother	1.7%
Formal Systems	
Paid individuals	17.4%
Social Agencies	
Paid	12.8%
Unpaid	4.3%

* Percentages do not add to 100% since persons may receive assistance from more than one source.

III. FINANCING

A. TOTAL EXPENDITURES

1. Total health care expenditures for persons age 65 and older exceeded $119 billion in 1984.

2. In 1985, approximately $35.2 billion was spent for institutional long-term care.
3. **Nursing Home Care Expenditures (1984)**

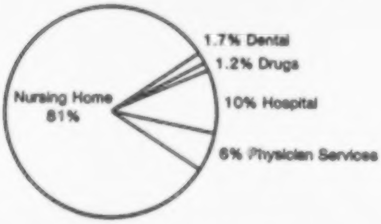
Nursing Home Care Expenditures (1984)	**Percentage**	**Amount (Billions)**
Out-of-Pocket	49.4%	15.8
Private Insurance Plans	0.9%	0.3
Medicare	1.9%	0.6
Other Government Programs	4.1%	1.2
Medicaid	43.4%	13.9
Other	0.6%	0.2
TOTAL		$32.0

4. The estimated average cost of a year's stay in a nursing home for private pay patients is $22,000.
5. The average private pay per diem for SNF care is $61.01.
6. The average private pay per diem for ICF care is $48.08.
7. The average licensed residential care per diem is $30.71.

B. **Out-Of-Pocket Expenses For The Elderly (1984)**

Out-Of-Pocket Expenses For The Elderly (1984)	**Percentage**	**Amount (Billions)**
Nursing home care	41.6%	12.6
Hospital care	5.6%	1.7
Physician services	21.4%	6.5
Other care	31.3%	9.4
TOTAL		$30.2

ELDERLY OUT-OF-POCKET EXPENSES OVER $2,000/YR



C. MEDICAID

1. In 1985, Medicaid spent $14.7 billion for nursing home care, more than one-third of total Medicaid spending, and 41.8 percent of the Nation's total nursing home bill.
2. In 1985, Medicaid per diem rate in a SNF averaged $49.93.
3. In 1985 the Medicaid per diem rate in an Intermediate Care Facility (ICF) averaged $39.57.
4. Nursing home recipients who are covered by Medicaid must contribute all their income except for a small personal needs allowance to the cost of their care.
5. Personal needs allowances vary from a low of $25 per month in 35 States to a high of $70 per month in Alaska.

D. MEDICARE[1]
1. Medicare was not designed to finance long-term care.
2. Medicare pays for all covered services for the first 20 days in a skilled nursing facility (SNF) during a benefit period but only after a hospitalization of at least 3 consecutive days.
3. For the 21st through 100th day, Medicare pays for all covered services over the specified coinsurance ($65.00 a day in 1987).
4. In 1980, the average Medicare **covered** SNF stay was 30 days, much less than the 456 days average stay for all nursing home patients.
5. In 1985, the average Medicare SNF per diem rate was $62.02.

E. LONG-TERM CARE INSURANCE
1. Less than 1% of the 29 million aged Medicare enrollees have a long-term care insurance policy. This is about 200,000 policies.
2. Premiums for long-term care insurance are usually fixed at age of issue. Thus, the longer one waits to begin contributions, the more expensive insurance premiums are on annual basis.

IV. ESTIMATES OF POTENTIAL EFFECTS ON PUBLIC AND PRIVATE EXPENDITURES OF INSURANCE AND COMBINATION APPROACHES

Type of Coverage	**Potential Market of 65/over**	**Reduction in Out-of-Pocket Expenditures**	**Reduction of Medicaid Expenditures**
Individual policy (Fireman's Fund prototype)	23%	12%	less than 2%
Individual Medical Account (IMA)/Insurance mix with 1/2 earned interest going into an insurance pool	29%	11%	4%
Pension/Benefit link with LTC policy added to those receiving pension payments	35%	11%	8%
Medigap/LTC coverage link	55%	12%	18%
1% of income from age 30 if assets at age 65 are $10,000 or more	63%	18%	12%

V. ATTITUDES OF THE ELDERLY

A. A survey taken by the National Center for Health Services Research (1984) found that only 19% of those polled said that they would not purchase private long-term care insurance because they viewed Medicaid and other welfare coverage as adequate.

B. A 1985 survey of the American Association of Retired Persons membership revealed that 79% of those who believed that they would at some point have extended stays in nursing homes, believed that Medicare would pay for all or part of this care.

35% of those with Medigap coverage said that their policies included extended care nursing home coverage, though most of these policies were with companies known not to offer such coverage.

C. The EQUICOR Survey (1986) polled retirees and employees of selected corporations. When asked how they would pay for nursing home care:
   1. About one-third of retirees and employees believed that they probably would pay for nursing home care themselves;
   2. 10% of retirees and 24% of employees mistakenly believe that employer-provided insurance would pay for nursing home care;
   3. 15% of retirees and 13% of employees believed that Medicare would pay for nursing home care;
   4. Only 3% of either group mentioned Medicaid as a source of payment for nursing home care.

PREPARED FOR:
TASK FORCE ON LONG-TERM
HEALTH CARE POLICIES

HIAA

Health Insurance Association of America

LONG-TERM CARE INSURANCE:
A REGULATORY AND LEGISLATIVE UPDATE

LONG-TERM CARE INSURANCE: A REGULATORY AND LEGISLATIVE UPDATE

Proposals to help people finance long-term care through private insurance have come from the National Association of Insurance Commissioners (NAIC) and individual states. The following provides an update of the most significant recent developments in long-term care insurance legislation and regulation.

The NAIC and its models

The model act. In December 1986, the NAIC met in Orlando, Florida and formally adopted the Long-Term Care Insurance Model Act.

The NAIC model act defines long-term care insurance as "coverage for not less than 12 consecutive months... for one or more necessary or medically necessary ...services (including personal care), provided in a setting other than an acute care unit of a hospital."

Specific measures contained in the model act that protect consumers include:

- Prohibiting an insurer from cancelling a policy because of the policy holder's age or deteriorating health
- Limiting the length of time an insurer may exclude coverage for preexisting conditions to six months, with no distinction based on age
- Furnishing policyholders with an outline of coverage detailing policy benefits, exclusions and renewal provisions
- Offering the consumer a 10 to 30 day free-look period within which to return the policy for any reason and receive a complete premium refund
- Prohibiting any long-term care insurance policy from offering coverage for only skilled care.

The model regulation. At their June 1987 meeting, the NAIC introduced an exposure draft of its Long-Term Care Insurance Model Regulation. Designed to give support to the model, the proposed regulation ensures consumer protection while promoting product innovation and experimentation.

Specific measures in the model regulation that protect the consumer include:

- Requiring coverage for Alzheimer's disease

- Requiring individual policies to be guaranteed renewable or noncancellable
- Requiring individual policies to have an expected loss ratio of at least 60 percent
- Providing policyholders with a basis for individual continuation of conversion of coverage
- Requiring that benefits continue after termination of the policy if institutionalization begins while the long-term care insurance is in force.

Taken together, the NAIC model act and model regulation provide a balanced approach ensuring consumer protection while encouraging wide availability of long-term care insurance. The model act has been well received by state legislators. In the first six months of 1987, 10 states adopted a version of the act:

Arizona
Hawaii
Indiana
Iowa
Kansas
Nebraska
North Carolina
North Dakota
Oklahoma
Virginia

In 1988 the following nine states are expected to adopt the model act:

Georgia
Illinois
Michigan
Ohio
Pennsylvania
Rhode Island
Tennessee
Wyoming
Idaho

Many other state insurance laws and regulations address long-term care insurance by setting requirements for reserves and rates and requiring free-look provisions and guaranty associations. States have also enacted laws and regulations to prohibit misleading or deceptive sales practices and pressure tactics. Insurance agent licensing laws, advertising rules, claims settlement requirements and rules prohibiting unfair trade practices apply to long-term care insurance policies and are all designed to ensure consumer protection.

In addition to the model act, the model regulation and those general insurance laws that affect the manner in which long-term care insurance may be sold, there are many state laws and regulations that focus on long-term care insurance. Some states have established minimum standards for policy coverage as a condition for an insurance company to offer its product to consumers. Other states have established restrictive minimum standards of coverage for long-term care insurance policies sold to their residents. Such measures, however, have discouraged insurance carriers from entering some markets with their products or vigorously pursuing sales. A number of states permit insurers to establish levels and limits of coverage, but require them to define the coverage contained in the policy. Minimum standards are set for definitions, policy restrictions, renewability provisions, and consumer disclosure.

###

SOCIAL SECURITY, DEFICITS, AND BABY BOOMERS' RETIREMENT

THURSDAY, MARCH 24, 1988

U.S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 11:00 a.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles, (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Riegle, Lautenberg, Sanford, Domenici, Grassley, Danforth, and Nickles.

Staff present: Richard N. Brandon, staff director; and Alan Cohen, assistant director for budget priorities.

For the minority: G. William Hoagland, staff director; and Jeff Sanders, senior analyst for social security, medicare and health.

OPENING STATEMENT OF CHAIRMAN CHILES

Chairman CHILES. Good morning. We are pleased to have with us today a distinguished gathering of panelists to talk about social security, the deficit and the prospects for future retirees.

We are going to have a live quorum and then a cloture vote at some stage. I am going to try to get my opening statement in before that starts or I leave, and Senator Domenici will be back over here as soon as we get that behind us.

We want to welcome Dr. John Palmer of the Urban Institute, Dr. Barry Bosworth, a senior fellow at the Brookings Institution, and Mr. Robert Myers, the former chief actuary at the Social Security Administration.

Let us begin this morning with a rough definition. The term is "unified deficit." What does it mean? Basically, it is what we owe at year's end after all the Federal Government's financial transactions are complete. It includes the receipts and expenditures of our day-to-day operating budget, as well as the transactions taking place in our trust funds. The largest of these trust funds is social security.

In recent years, we have had a number of ways of accounting for the social security trust fund. Between 1969 and 1985, it was considered "on budget" right along with transactions in the operating budget. But in 1986, that was changed. Social security was taken "off budget" because there was some concern that cuts in the program would be used to balance the budget.

These days, social security is building up a surplus. And because the program is doing so well right now, it distorts the true dimension of the problem that we have to deal with. How? Well, basically it is because the Gramm-Rudman-Hollings law lets us count the social security surplus when it comes to measuring whether we have met the deficit targets established in the law.

Because we count the social security surplus for Gramm-Rudman-Hollings purposes, the current Federal deficit seems to be around $177 billion. But take that surplus out, and the deficit for 1989 hovers around the $223 billion mark. It is what we call the "operating budget deficit," and it is the one that is most in need of major surgery.

The reason for that is currently the baby boom generation is part of the work force. They are swelling the social security surplus as they put in payroll taxes. But somewhere around the year 2010 or so, the baby boom people will start leaving the work force and entering their retirement.

The surpluses will shrink, with fewer people paying taxes and more and more collecting benefits.

For the time being, the social security surplus means the money can be invested, and we are investing it in Treasury notes. Thirty years or so down the road, as more people lay claim to their retirement benefits, the social security surplus will disappear. That is when it will come time to cash in those notes, in effect, calling on the Government to pay back the money it borrowed when it sold the notes to social security.

We already know the demand for benefits will exceed the supply of money coming into that trust fund. We already know that there will be fewer people contributing payroll taxes while more are collecting benefits. So we already know the Social Security Administration will start redeeming its Treasury notes to keep benefits flowing.

And that is where the crunch comes in. If the operating deficit of the Federal Government is still in the vicinity of $200 billion annually—and it will be unless we make some very substantial changes—the government is going to be hit with both barrels. The operating deficit will be high and, in addition, we will have to borrow more to pay off social security obligations coming due.

We have got to find a way to avoid that.

If the operating budget were in balance, the buildup of social security surpluses would mean savings flowing from the Federal sector to the private sector. It would mean a higher level of investment, more capital stock, better real wages, and an improved standard of living. Then, when the Treasury bills are redeemed to pay retirement benefits, America would find itself in a much stronger position to honor them.

As things stand now, the Federal deficit is soaking up whatever savings are available. Instead of investing in the economic vitality of the Nation, the government absorbs capital to service its consumption debt.

What it comes down to is this: We have got to figure out the best way to show the true size of the Federal deficit without hiding it behind the current social security surplus. Next, once we understand its true size, we have got to move forcefully to try to get rid of it.

We have one luxury. We have time, but we do not have enough time to waste.

It is my hope today that our panelists will go into some detail about the deficit and how it relates to social security, both now and some 30 years and more into the future. And I hope you will be willing to tell us your thoughts on the best way to proceed.

Thirty years seems like such a long time when we have so many other problems to deal with right now. But by dealing with one of these problems now, we will also be working on tomorrow.

Why is this such a concern? When I think of the year 2030, which is the year, around that time, that I think we will really begin to be having some major problems, I just do not want to have to worry about that when I am 100 years old. I just think I ought to have other things that I can worry about.

Without objection will will include a statement of Senator Sanford in the record at this point.

[The prepared statement of Senator Sanford follows:]

STATEMENT OF SENATOR SANFORD

I am very glad that the committee has scheduled a separate hearing on the social security trust funds today. These trust funds represent not only about a quarter of the whole Federal budget but the most important program ever enacted in this country.

Protecting the fairness and integrity of the social security trust funds is my highest priority. You have heard me say before and you will hear me say again: Let's keep the security in social security; let's keep the trust in the trust funds.

In keeping with my priority, this morning I introduced a bill on the floor which will remove the social security trust funds from the calculation of the deficit under the Gramm-Rudman-Hollings legislation. I introduced that bill because I believe that we are not being wholly honest when we say that we're going to balance the budget in 1993 and because I believe we need to insure the protection of the trust funds and the people who depend on them.

What has bothered me about the deficit reduction targets in the Gramm-Rudman-Hollings legislation is that it is like saying I need to vault that 16-foot wall to get out of this prison but if I only jump 8 feet twice, that is good enough. When the trust funds are included in the deficit calculation that gives us the false sense of freedom not to balance the budget. I don't think we should make it easier for us not to do our job.

I am also looking at other ways of protecting the integrity of the trust funds so that when they are needed they will be available. And we won't have spent the money on something else.

Chairman **Chiles**. We will start now. Dr. Bosworth, we will let you start off. They have not started that live forum yet, so we will begin with your testimony.

STATEMENT OF DR. BARRY P. BOSWORTH, SENIOR FELLOW, BROOKINGS INSTITUTION

Dr. **Bosworth**. Thank you. I did submit some written testimony to the committee, so I will try to just quickly summarize my main points.

Chairman **Chiles**. Your statement in full will be placed in the record.[1]

Dr. **Bosworth**. Thank you.

The first point, I think, that is a surprise to people, particularly in view of the discussion of the early 1980——

---

[1] See p. 91.

Chairman CHILES. Pull your mike up just a little bit more.

Dr. BOSWORTH [continuing]. About a crisis in social security, is that after the 1983 reforms, we are actually dealing with a social security system that is going to run enormous surpluses for about the next 30 years. In fact, the surplus in social security under the medium-term projections of demographic changes will accumulate by about 2025 to a surplus in social security of $2 trillion. And then, as the baby boom retires, as the chairman mentioned, there is a rapid run-down of that surplus. Actually, by the end of the 75-year projection period, the social security system, unless there is some further tax increase, will have a deficit.

So we are faced with a situation of feast and famine in the social security system; first the buildup of a huge surplus and then the running down of that surplus.

The underlying pattern is caused by a demographic shift that is taking place in the United States. First, there will be almost no increase in the proportion of the American population that is retired for about the next 20 years. That is simply because these are the people who were born in the Great Depression and the early years of World War II when the birth rate in the United States was extremely low. But then the postwar baby boom begins to retire.

The demographics change implies that, if we do nothing, we will have a tremendous increase in the retirement costs being faced by future generations who will have to pay for the baby boom generation. We have typically financed social security on a pay-as-you-go basis, which is fine as long as the relative size of the populations do not change. I will take care of my parents' retirement in return for my children taking care of mine. The only problem this raised is that the baby boom generation, so to speak, gets off cheap. There are not very many parents that we have to take care of, so our costs are low. And then this huge population retires, and there is a tremendous increase in the burden on future workers.

Well, I think the 1983 reforms of the Social Security Administration recognized this problem as far as the Social Security system itself goes, and came up with what, in fact, was an excellent idea. They cut the level of benefits that are being promised to the baby boom generation, but they did it way ahead of time so these people had time to adjust their own saving behavior. Second, we had some increase in today's tax rates.

The idea is that the social security fund would, therefore, run a surplus, and by accumulating a surplus during our working life, much of the burden on future workers could be offset. The issue, though, that we face today is a special problem that has come up with the dealing of social security in the budget.

Social security is technically included in the Federal budget calculations. A surplus in social security offsets the deficit in the rest of the budget. But that raises the critical problem with respect to this whole plan of reducing the burden on future generations. I feel virtuous because I am contributing a lot to social security, I run up the surplus, and then I say give it to me because it is mine. When, in fact, I am putting the money into the social security fund and then I am turning around and borrowing it right back to finance my own consumption. In no way have I passed on any funds or resources to future generations.

The social security surplus could dramatically reduce and even eliminate the burden on future workers if we saved it, because we would pass on to them a bigger burden of social security retirement costs, but, in addition, we would give them a much larger capital stock, and a higher level of national income out of which to pay the benefits. Their own wage income would be much higher in the future, despite the fact they had to pay for our social security benefits. The net burden to them, if the social security surplus was saved, in fact, would be zero. There would be no increase in the cost to future workers of financing OASDI.

But if we do not save it, this is all just a paper transaction, a facade. Under the current budget projections, this problem, even though it looks like it is way in the future, is of immediate concern.

In 1988 alone, the social security surplus will be $38 billion. Five years from now, in the CBO projections for 1993, the surplus will be over $100 billion of social security. If you leave out social security, you do not congratulate yourself on how well you are doing on the Federal budget deficit. Now, you claim that it is $148 billion and falling. No, it is not. It is $180 some billion and it is rising to way over $200 billion 5 years from now.

All you are doing is using a surplus of the social security system to finance our own consumption today. This is not, in fact, a crisis for social security. This is a crisis for the rest of the budget. We simply cannot discipline ourselves to pay for our own consumption today out of our own taxes, and we are trying to borrow from our own pension funds to sustain our own consumption.

The threat this is going to raise in the future is we are going to say that the reserve is our savings, give it back to us. The social security system, in order to do that, will have to start to sell its assets. Those assets are Treasury securities. The Treasury will have to repurchase them. Therefore, income taxes in the future will be forced to rise dramatically simply to repurchase the debt from the Social Security Administration.

The future workers are not faced with high employment taxes to pay for social security. They are faced with high income taxes to pay for the debt that had previously been transferred to the social security system. But the tax burden on them is the same.

At the same time in this country, we hear endless discussion that, as a nation, we save too little. Our national saving rate has now plummeted to less than 2 percent of our national income. We consume 98 percent of all the income produced in this country. We, in other words, already live way beyond our means.

What is being suggested here is that we should use the social security surplus to live even more beyond our means in the current period. I think the solution to this problem is that we must move the social security system outside the budget completely, make the American public realize that it is nothing more than a retirement program. If you want to have public trustees, that is fine. But the program should be administered and viewed publicly in the same way as the private pension funds, because that is all it is. It is a pension fund run by public administrators, and we should try to find a way to remove it from the deficit.

I know this sounds like sort of a fantasy world, because at a time already that this country cannot deal with its budget deficit, I am suggesting a change that would point out to the American public that the extent by which they are living beyond their means is far larger than they currently believe. But it makes no sense at all to run a surplus in the social security system, financed by a regressive payroll tax, and then turn around and use those funds to finance general fund revenues.

If we cannot bring ourselves to set aside the social security surplus and save it, I think there is merit in the arguments of some who say: Then you should stop the facade and you should simply cut the employment tax and eliminate the surplus. Because at least people would realize in the future that they did not save anything for their own retirement.

What we are doing today is creating an enormous problem for the future, where one group, one generation, is going to claim that they deserve it, when, in fact, they never saved for it.

But the far preferable approach for the government to try to take is to actually save the social security surplus. It would have enormous benefit to this country in terms of increasing the national saving rate, the rate of national capital accumulation. We are, for example, at present the world's largest debtor nation. If we save the social security surplus, we could finance our own investment and have the opportunity to pay off our foreign debts and move back to the status of a creditor country.

So this issue, although I know it seems way out in the future and a problem for future generations, it is, in fact, a problem for the current Congress and the current financing of our own consumption. We are borrowing heavily from the future to try to sustain a standard of living here in the United States that is simply far beyond our own income at the present time.

Thank you.

Chairman CHILES. Thank you, Dr. Bosworth.

[The prepared statement of Dr. Bosworth follows:]

Statement of

Barry P. Bosworth*

before the

Budget Committee

United States Senate

March 24, 1988

*Barry Boswsorth is Senior Fellow at the Brookings Institution

---

The views expressed in this statement do not necessarily reflect those of Brookings staff members or the officers and trustees of the Brookings Institution.

The Social Security System is faced with a significant long-term financing problem. When the current baby-boom generation begins to retire, the United States will experience a sharp rise in the proportion of its population that is retired. This shift in the demographic structure would, under the type of pay-as-you-go retirement system (OASDI) used in the United States, impose a sharply higher tax burden on future generations.[1]

The 1983 Social Security reforms, however, do move the system away from a pay-as-you-go system. As shown by the current Social Security Trustees' Reports, through tax payments in excess of current outlays, the current working population will fund a portion of its own retirement costs, much like a private pension system. The result will be the accumulation of a large reserve in Social Security over the next three decades, amounting to about $2 trillion at today's prices, followed by a rapid decumulation in subsequent decades. Without a tax increase the fund will be exhausted in the 2050-2060 period. On average over the next 75 years the fund is in close actuarial balance, but in the terminal years of the projection period it is in large deficit.

The Brookings Institution is currently engaged in a research study that examines several issues surrounding the management of a large Social Security surplus in future decades and the economic implications of the alternative uses that might be made of the surplus. We have concentrated on the following major questions: If the fund were set

---

1. I will limit my remarks to a consideration of financing OASDI alone. A consideration of the future medical costs of the retired simply magnifies the basic problem.

aside from the rest of the budget and the annual surpluses used to increase national saving, how much difference would it make? What would be the impact on domestic rates of capital formation and productivity growth and the rate of return to capital? How would the Social Security System itself be affected? And what would be the impact on the cost to future generations?

We believe that these issues, which might seem of relevance in the distant future, are actually of great importance today because of their impact on current fiscal policy decisions. The economic impact of the Social Security reserve buildup will depend critically on the uses to which the reserve is put. If the current population simply borrows from the social security fund to finance its own consumption -- say, to finance other outlays in the federal budget -- the burden on future workers will not be reduced. Their employment taxes may not increase, but income and other general fund revenues will have to rise to finance the repurchase of the Treasury debt transferred to the social security fund in prior years. The combined level of income and employment taxes would be roughly the same as under a continuation of a strictly pay-as-you-go system.

Alternatively, the reserve could be used to augment the nation's critically low level of national saving and capital formation. In that case the current generation would finance a portion of its own retirement by supplying future generations with a larger capital stock. Future workers would benefit both from the funding of a portion of the costs from capital rather than labor income, and because their own wages would be higher as a reflection of their increased productivity -- increased capital per worker.

Which of these approaches is followed will depend not upon the decisions of the Social Security System, but the decisions of the Congress and the President with respect to the rest of the budget. Currently, discussions of the budget and the appropriate targets for fiscal policy are discussed with no distinction between Social Security and other parts of the budget. Thus implicitly the surplus of Social Security is available to finance other programs. For example, the budget deficit projections currently emphasize the total deficit of about $150 billion while ignoring a $35 billion surplus in Social Security. In 1993 the annual Social Security surplus will be $100 billion. Without it, the federal budget deficit will rise rapidly to over $230 billion at the end of CBO's current five-year budget horizon.

I cannot discuss all the aspects of our study in this brief testimony, and I will limit my remarks to a few summary points that seem most relevant to the Committee's interests. Most of our analysis is the result of the construction of a small model of U.S. economic growth that has been adjusted to match, as a baseline, the intermediate II-B projections of the Social Security Trustees. Although their projections can be criticized as being overly optimistic or pessimistic in some respects, there is, in fact, very little basis for making accurate projections as far into the future as is required to fully evaluate the system over a person's full work and retirement life.[2] Since we are primarily interested in the incremental effects of alternative policies, the baseline projections are not in most cases critical to our conclusions -- they do provide a convenient base for comparison.

1. The underlying demograhic trend toward an increase in the ratio of beneficiaries to workers is shown in Figure 1; and the basic financial condition of OASDI is summarized in Figures 2 and 3.

   - Alarmists tend to emphasize the first chart in pointing to the rise in the beneficiary ratio from 0.3 per worker today to 0.5 per worker after 2030.
   - On the other hand, the associated rise in benefits as a share of Net National Product will be from 5 to 6.5 percent.
   - There will be a very large annual surplus, averaging 1.5 percent of NNP, for the next three decades followed by an even larger deficit. In comparison, the current total national saving rate is only 2 percent of NNP and it has averaged only 6-7 percent in the post-World War II period. From the point of view of Social Security the future is clearly divided into alternating periods of feast and famine.

2. The most frequently suggested means of insuring that the Social Security surplus is invested for the future, rather than being used to finance today's consumption, is to totally remove the fund from the

---

[2] For example, if the real rate of interest should average 3 instead of 2 percent as assumed by the projections, the entire long-term deficit of Social Security would be eliminated.

budget -- as mandated in the 1983 reforms -- for purposes of establishing appropriate budget targets. As a result, the annual surplus would automatically be passed through to national saving and private capital formation. We evaluated this policy by setting the deficit in the rest of the budget to the historical average of 1.5 percent of GNP and allowing the annual balance in the fund over the period of 1990-2060 to be fully reflected in a changed rate of national capital formation.

- The result is not particularly favorable to the future because consistency in using the budgetary rule implies that the future deficits, after 2025, would also be reflected in a lower rate of capital formation: capital formation is raised during the years of Social Security surpluses, but reduced during the years of deficit. Since the fund is in deficit over the full 75 year period, the long term effect is to reduce the nation's rate of capital formation, and to induce a large cycle of rapid capital accumulation followed by decumulation.
- The study also reveals a second interesting result which is that higher rates of saving and capital accumulation actually worsen the longrun financial position of the Social Security Fund, itself (see figure 4). The increased stock of capital initially raises the productivity of workers, wage rates, and tax revenues; but, with a brief lag, it also raises future benefits, which are indexed to wage rates, by an equal percentage amount. Since benefit payments exceed tax receipts

over the full 75-year horizon, an equal percentage increase in both leads to a larger deficit in the fund as a whole.

3. Analysis based on the current OASDI projections are deficient in one critical respect, however, because they incorporate a future fund deficit that will not occur. Under current legislation, the trustees each year undertake a 75-year projection of the fund and judge it to be in "close actuarial balance" whenever income is, on average over the full period, within 5 percent of outlays. As those projections are extended in the future, the need for further tax increases, or benefit cuts, will become more noticeable. If we assume that future Congresses will act to maintain the fund's solvency, the large deficits at the end of the projection period will not occur and the fund's contribution to national saving will remain positive through-out the period.

- o We evaluated this decision rule in our simulation by simply assuming that tax rates are increased whenever the fund moves into an actuarial deficit.
- o The additional tax rate increases amounted to 0.7 percent of taxable payroll in 1992 and 0.8 percent in 2025.
- o The reserve in the terminal year, 2060, changes from a negative 11 percent of NNP to a positive 18 percent.
- o The increment to national saving is positive throughout the period 1990-2060.
- o If the surplus is passed through into national saving, the nation's income is increased in every year of the projection

period and the percentage gain reaches its peak in about the year 2030.

- The policy also completely eliminates any increased burden on future generations. They do pay a higher tax rate and a larger magnitude of benefit payments are transfered to future retirees; but the after-tax incomes of future workers are increased by more than the increased cost of OASDI benefits shown in the current trustees' reports.
- It is in this sense that the current generation can, through higher saving, pay for the added cost of its own retirement.

In summary, I believe that the larger future costs of providing for an aging population argue in favor of a greatly expanded rate of national saving today. The failure to plan for these needs will imply dramatically higher burdens on the future working population. Furthermore, I believe that a collective approach to the problem is far preferable to attempts to dismantle Social Security and rely on private retirement schemes. We know that many individuals will not make adequate plans, and I find it hard to believe that future generations will simply ignore the problems that will develop.

Fortunately, the 1983 reforms in Social Security provide an ideal vehicle for generating the required buildup of national saving. To a first approximation, the surplus generated by an actuarially-balanced OASDI fund is a good measure of the required increment to national saving. The most serious threat to generating the required saving is the perception of the current generation that the Social Security reserve is simply a pool of funds that can be fully borrowed to finance other government expenditure programs. That perception is perpetuated by the current practice of lumping the Social Security reserve together with all other programs in defining the budget deficit and the appropriate budget deficit targets. We are not, in fact, saving the Social Security surplus. We are simply using a system of regressive wage taxes to finance general fund outlays that were formerly financed with the personal and corporate income taxes.

I favor a separation of Social Security from the overall budget and its operation in a fashion similar to that of private retirement systems, with public trustees. I believe that the separate treatment would increase the likelihood that the surplus would, in fact, be saved; and it would increase public attention to the enormous gulf between current government consumption and the taxes required to support it. At present, the United States is living far beyond its means -- particularly, in the public sector. Unless this problem can be addressed, future generations will face an overwhelming burden of trying to finance our debts and our retirement needs.

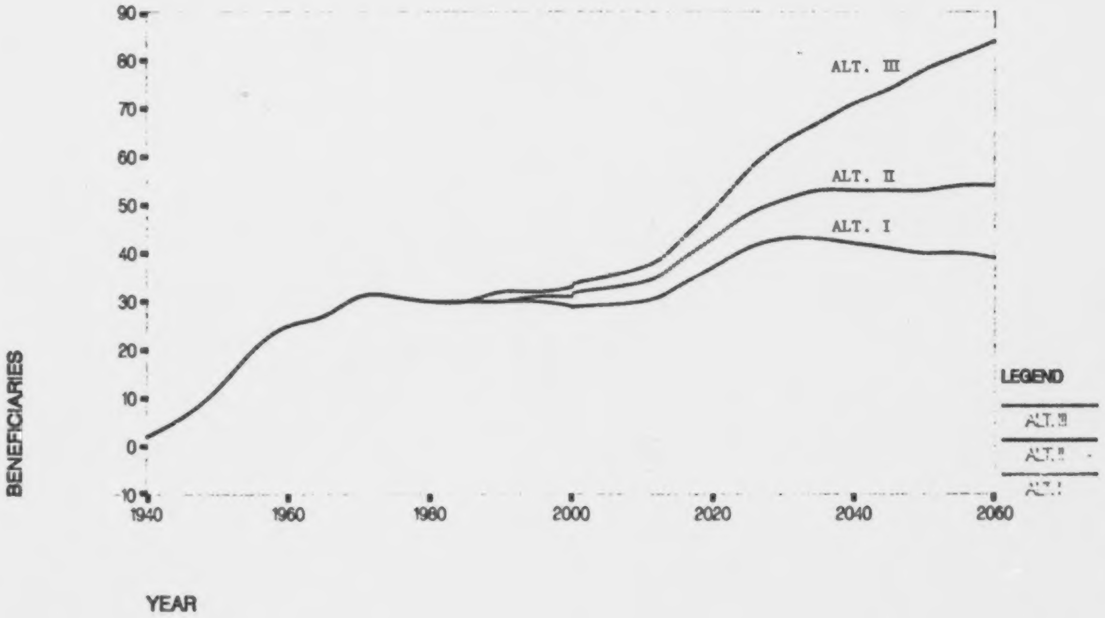
I am aware that my testimony seems to reflect an atmosphere of unreality. At a time of enormous budget deficits on the conventional measures and a national saving that has plummeted far below the historical norm, I am arguing that the historical norm is far too low. Just in terms of the budget deficit issue, the general fund deficit (exclusive of Social Security) that should concern us is $194 billion in

FY 1988 and rising toward $230 billion in 1993, not $157 billion and falling as suggested by the latest CBO projections.

It is also difficult to interest people in distant future events. But, if we ignore the implications of the demographic changes, it is difficult to visualize how the current retirement and health care system for the retired can be kept intact.

The fundamental problem, however, is that the public finances got way out of balance in the late 1970s and 1980s and the gap between our expenditure commitments and the tax revenue to support them has been steadily growing over time. The longer we wait, the more painful the adjustment will be.

FIGURE 1: Number of Beneficiaries per 100 Covered Workers



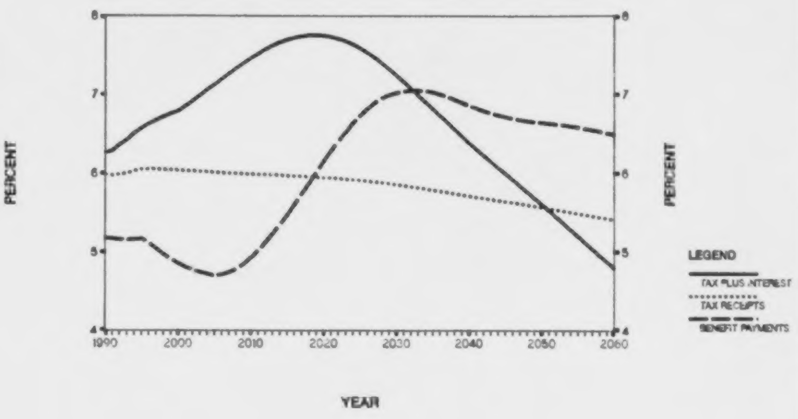


FIGURE 2: THE FINANCIAL POSITION OF THE OASDI TRUST FUND, 1990-2060
(PERCENT OF NET NATIONAL PRODUCT)

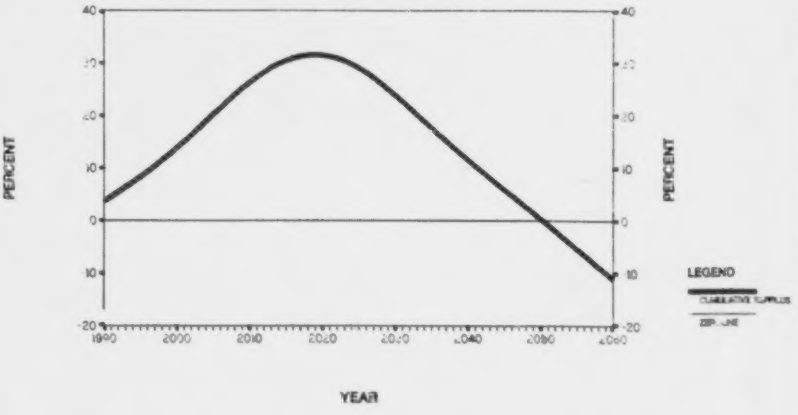


FIGURE 3: TRUST FUND BALANCE, 1990-2060
(PERCENT OF NET NATIONAL PRODUCT)

FIGURE 4. NON-OASDI DEFICIT EQUAL TO -1.5 PERCENT OF GNP

CHANGE FROM BASELINE EXPRESSED AS A PERCENT OF NNP

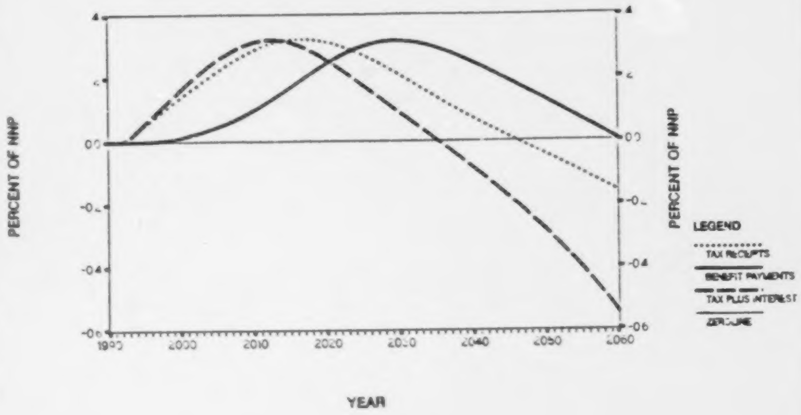


FIGURE 4. NON-OASDI DEFICIT EQUAL TO -1.5 PERCENT OF GNP

CHANGE IN CUMULATIVE TRUST SURPLUS

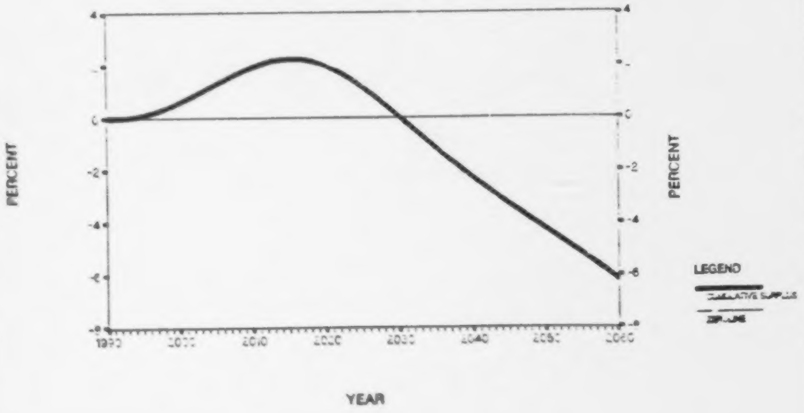


Table 1. Economic Impact of Saving the Surplus of OASDI, Actuarial Balance, 1990-2080.

Year	OASDI Trust Fund			Aggregate Economy			Incremental Burden	
	Annual Balance	Cumulative Balance	Tax Rate[a]	Capital Stock	Net Nat'l Product	Consumption	Baseline	Actuarial Balance
	Percent of NNP			Percent Deviation from Baseline			Percent of NNP	
1990	1.1	3.7	12.4	0	0	0	-0.1	-0.1
2000	2.6	17.5	13.1	9.2	1.8	-0.8	-0.4	0.3
2010	3.40	34.1	13.1	19.6	3.6	0.8	-0.3	-0.9
2020	2.4	42.3	13.1	22.9	4.1	3.0	0.9	-1.6
2030	1.4	38.3	13.9	19.3	3.6	3.4	1.0	-0.9
2040	1.0	30.6	13.9	14.9	2.9	2.8	1.6	-0.6
2060	0.8	24.4	13.9	11.7	2.4	2.3	1.4	-0.4
2080	0.5	18.3	13.9	8.7	1.8	1.9	1.2	-0.3

[a] Percent of taxable payroll

Chairman CHILES. I can characterize this a little bit like the social security fix was very much like Joseph's interpretation of the Pharaoh's dream. There were going to be 7 good years, and then there were going to be 7 lean years. Joseph was going to store the corn, and did, during the good years so there would be something when the famine came. It looks like what we are doing now, we are now taking the corn out the back door and putting it in the front door, and there is not going to be any corn in the grain house when the lean years come because we stored it and then we ate it as we went along.

Dr. BOSWORTH. I think that is an excellent analogy.

Chairman CHILES. Dr. Palmer?

STATEMENT OF DR. JOHN L. PALMER, SENIOR FELLOW, THE URBAN INSTITUTE

Dr. PALMER. Thank you, Senator Chiles and other members of the committee. I, too, have submitted a longer formal statement, but in the interest of time, I will just take about 10 minutes and try to summarize.

Chairman CHILES. It will be placed in the record.[1]

Dr. PALMER. The basic message in the first section of my prepared statement is that the combination of population aging and continued rising health care costs will result in a substantial increase in the share of total economic resources being devoted to the support of the aged population over the foreseeable future. Even in the next 20-year period when the aged as a group are not growing in proportion to the rest of the population, the increase in the very old will have an effect on medical care costs.

Just how much this increased fiscal pressure will be is difficult to predict because the amount will depend on the uncertain course of the economy, among other things, as well as on future adjustments in public policies in support of the aged. However, my first table shows that it appears likely that the revenues necessary to finance projected Federal expenditures, under current policies, would have to increase modestly over the next two decades, and by at least 4 percent of GNP during the retirement of the baby boom. This, of course, does not take into account any possible increase in Federal expenditures to finance either catastrophic acute health care for the aged or their rapidly growing needs for long-term care.

Now, the 1983 amendments to the Social Security Act largely anticipated the retirement of the baby boom. In addition to measures designed to avert the pending bankruptcy of the program's trust funds and to reduce long-term benefit commitments, the amendments included provisions for increasing social security's future revenues sufficiently to put the program on a sound financial basis well into next century.

However, although the projected outlays and income for social security are in rough actuarial balance over the next 50 or so years under the intermediate assumptions, this does not necessarily mean that the total economic resources available during the retirement of the baby boom generation will be any larger than they would have been in the absence of this buildup and reserve.

---

[1] See p. 110.

As Barry Bosworth has just so eloquently pointed out, once the crossover point is reached and the reserves start to be drawn down, the annual surpluses will become perpetual annual deficits, which will then have to be financed by either higher taxes or deficits in the consolidated accounts.

If the reserves in the social security trust funds are to be of any real benefit in easing the financial burden of the retirement of the baby boom, they must enhance economic growth in the interim, so that the total economic pie available for the aged and nonaged population together is larger than it would otherwise be in the future. This will be the case only if the social security surpluses—which are, after all, a form of public savings—result in higher overall national savings and investment than what would otherwise occur.

But they cannot have this effect if they are used simply to offset deficits in the general Federal account. And as is clear from what Barry said and table 2 in my handout,[1] this is exactly what is now occurring and will be occurring at an increasing rate rapidly approaching $100 billion a year.

If general deficit reduction does not continue to supply sufficient temptation, there is yet another threat to the social security surpluses looming. Unlike social security, no provision has yet been made even on paper for the financing of medicare's projected faster than GNP growth over the next 20 years, let alone the retirement of the baby boom. Under these conditions, it will be tempting to reallocate the social security surpluses in order to postpone medicare's day of reckoning or to finance new health care benefits for the aged.

The policy options that might be considered to deal with this complex set of issues that are raised by this picture are numerous and varied. Furthermore, all of them are politically unattractive since they involve the need to worry about ways of dealing with the long-term fiscal gap that the aging of the baby boom will impose on top of the existing problem of the Federal deficit. But the problems must be faced up to.

Let me just briefly sketch out a few of the major alternatives that I believe would be the most fruitful. The most immediate implication is that the projected social security surpluses should not be used to finance, either implicitly or explicitly, other Federal expenditures, including medicare. The goal for general deficit reduction over the 1990's should be to more or less balance the books exclusive of these surpluses, as Barry advocated.

This, of course, will be no mean feat, since achieving a balanced budget inclusive of social security is proving to be so difficult now. Nevertheless, this should be the objective for fiscal policy.

Even if this objective is met, however, there will still be a longer run problem which will eventually require some combination of an increase in taxes on the working population or reduction in the current consumption of public financing of health care and retirement benefits for the baby boom. Fortunately, I think the greatly improved current and prospective economic status of the aged provides scope for some of them to shoulder more of the burden for financing their own retirement and health care without undermining the improvements in economic security that have already been achieved.

---

[1] See p. 130.

Let me be clear here that I am not talking about anything so radical as traditional means testing of these programs or their privatization—both ideas that some people are advocating. In my view, these approaches would be highly undesirable, and I have laid out the reasons why in my formal statement.

Rather, I am talking about more moderate changes which would still preserve the essential functioning of the current social insurance system. Several are possible, but they all share certain general characteristics. The wide array of options boils down to two fundamental approaches. The burden for financing their own retirement and acute health care could be increased for the aged somewhat in a way that is either related or not related to their income. Refinements can come into play over the implementation of these approaches. The increased burden can be achieved directly through explicit reductions in benefits, such as COLA limitations or a gradual, moderate decline in replacement rates in social security, or indirectly through measures such as taxation of benefits or increased premiums in the case of medicare.

The advantages of income-related approaches are obvious in light of the considerable heterogeneity in the economic status of the elderly population. In particular, income-related approaches can minimize the adverse consequences for lower to moderate income aged who are highly dependent on social security and medicare to maintain their prior standards of living and avoid financial hardship.

But income-related approaches are not without their disadvantages. One problem is the potential for administrative complexity. For this reason, use of the tax system to accomplish the income-related process is vastly preferable, even though some precision in targeting might be lost by a less than ideal definition of income or family unit.

The second disadvantage of income-related approaches is their potential for undermining political support for the program. This is a legitimate concern which needs to be paid attention to. But here, again, there are ways of minimizing it, I think, by retaining the universality and earned-right features of the program, which I have discussed in my full statement.

Now, while I stated earlier that removing the social security surpluses from any consideration in current Federal deficit concerns would be ideal, I also recognize, as Barry did, that this may not be politically feasible. The temptation to use these projected surpluses for other purposes may prove too tempting. Furthermore, this temptation could be further exacerbated if measures to deal with the long-run problem were adopted in the near term which lead to an increase in the size of the surpluses.

In light of this, an alternative would be to take steps to reduce these projected annual surpluses by reducing the earmarked social security taxes. However, if this is done, care must be taken to insure that there is a commensurate short-term increase in general revenues that is applied to general deficit reduction and a commensurate decrease in long-term social security benefit commitments beyond that which would be planned in any event to close the fiscal gap which will arise during the retirement of the baby boom.

The simplest way to accomplish the former would be to un-earmark, if I might coin a phrase, the proceeds from income taxation of social security benefits so that they would become general revenues rather than flowing into the trust fund reserve. This taxation is currently projected to yield nearly $6 billion by 1993, and if expanded by reducing the AGI thresholds or subjecting the greater proportion of benefits to taxation, could yield an additional $10 to $20 billion annually by that year.

A more complex approach would be to reduce scheduled payroll taxes in return for an explicit increase in income or other general revenues, again, with a commensurate decrease in social security benefit commitments in the long run.

Let me now just conclude with a few general observations. One clear lesson that I draw is that the fiscal pressures attendant to population aging should further compel us to deal with two issues that would presumably be high on the public agenda in any event: the promotion of long-term economic growth and the control of cost inflation in the health area. Here it is worth underscoring a point in addition to the one about the social security surpluses that we have been talking about. Because escalating real health care costs are not limited to medicare or to the aged, I believe that any approach to restraining these costs that will be both effective and capable of sustaining public support in the long run will have to go far beyond changes in medicare reimbursement alone, to more fundamental changes in the way in which we organize and finance the provision of health care in general.

I have also alluded to various approaches to modifying medicare and social security in line with the growing capability of some of the aged to shoulder more of the burden in the immediate future. These measures could be used to contribute to general deficit reduction or to help finance any expansion in assistance to the more needy aged. They could also partially alleviate the increased fiscal pressures that will attend the retirement of the baby boom.

Here I want to stress again that income-related approaches operating through the tax system are strongly preferable.

In the long run, it may be desirable to have some of it ultimately borne through across-the-board methods, such as COLA reductions, but I do not think they should be considered in the near term. They will be less problematic if they apply only to future groups of the aged, because even the lower income members of these groups would have the advantage of greater overall resources and a longer lead time with which to adjust.

The desirability of a lead time for adjustment is only one of the several reasons why we need now to focus on these issues.

Senator SASSER. Dr. Palmer, I apologize for interrupting. We have a vote on, and we are going to have to suspend until the chairman gets back. The committee will stand in recess subject to the call of the Chair. I would guess it will be 5 minutes.

Dr. PALMER. Fine.

[Recess.]

Chairman CHILES. Dr. Palmer, we will let you continue. then.

Dr. PALMER. Okay. Thank you. I am very near the end of my remarks.

I was saying that the desirability of a lead time now in dealing with this issue is important for several reasons. Pressures for general deficit reduction and selective expansion of benefits will continue to motivate more immediate changes in social insurance and other programs serving the aged, and actions to greatly improve medicare's fiscal outlook will be required in the next decade.

Furthermore, while social security per se may be on sound financial footing for the next several decades, as we know, its rapidly accumulating reserves are already generating strongly conflicting views about their disposition. A coherent longer range vision of how our society wants to finance retirement and health care for the aged is needed, so that any potential changes in public policies can be assessed on the basis of their consistency with such a vision and appropriate adjustments in the behavior of individuals and private institutions fostered. Otherwise, we will face much more wrenching and less palatable changes in public policies and private circumstances in the future.

Many people tend to pose the issue here as one of inevitable conflict between generations, but it is important to keep two points in mind here. First, today's working age population are the children of today's aged and will, of course, themselves be elderly some day. Thus, the issue is ultimately not us versus them, but the role all Americans would like to see public policies play in promoting economic security for themselves and their families over their lifetimes.

Second, Americans of tomorrow in all age groups will almost certainly have a much higher level of material well-being than today. In the four decades following World War II, per-capita real GNP increased at an average annual rate of nearly 2 percent, leading to more than a doubling in our standard of living. Even if this rate of growth were to slow to, say, 1.5 percent annually, per capita real GNP would double once again by the time the baby boom generation is fully retired. Under these circumstances, which we can only be sure will come about if we, in fact, make the investment and savings that are necessary, closing a fiscal gap of 4 percent or more of GNP certainly need not entail an onerous burden, as long as this burden is distributed reasonably equitably, both between and within the aged and nonaged population.

Now, developing a consensus on what constitutes an equitable distribution, of course, will be an arduous task for political leadership. But if the task is pursued in the context of policies to reduce the on-budget deficit, enhance long-term economic growth, and constrain cost inflation in health care, I think it is very do-able.

Thank you.

Chairman CHILES. Thank you, sir.

[The prepared statement of Dr. Palmer follows:]

SOCIAL SECURITY AND MEDICARE:

REDUCING THE DEFICIT AND PREPARING FOR THE RETIREMENT OF THE BABY BOOM

Statement before the Senate Budget Committee

March 24, 1988

by

John L. Palmer*

Any opinions expressed herein are solely the author's and should not be attributed to The Urban Institute or its officers or funders. For more background and elaboration on much of what is contained in this statement, see John L. Palmer, "Financing Health Care and Retirement for the Aged," in Challenge to Leadership: Economic and Social Issues for the Next Decade, edited by Isabel V. Sawhill (Washington, DC: The Urban Institute Press, 1988).

* Senior Fellow, The Urban Institute.

Mr. Chairman and members of the Committee, thank you for inviting me. The subjects of today's hearings are extremely important ones about which I have given considerable thought in my work over the past several years. I am pleased to be able to discuss them with you today.

My prepared statement is divided into three sections. First, I will discuss the fiscal strain that the retirement of the baby boom will place upon public resources and the interrelationship of this with current federal deficit concerns. Second, I will sketch out some of the policy alternatives for dealing with the complex set of issues raised by these matters. I will then conclude with some general observations.

The Fiscal Context

The interaction of past expansions in our social insurance system, rapid population aging, the slowdown in productivity growth and escalating health care costs will place a considerable strain on public resources in the future. Just how much of a strain is difficult to quantify, because it will depend not only on future adjustments in public policies but also on the uncertain course of the economy and health care costs. One rough measure of the magnitude of the problem can be derived from projections of future expenditures for Social Security and Medicare under the policies now in effect, because these two programs currently account for more than four-fifths of all federal spending for the aged (as well as 48 percent of all domestic program spending and 29 percent of all federal outlays). Some current-policy fiscal projections (and historical data) are displayed in Table 1, using both the "intermediate" and "pessimistic" assumptions usually employed for the two programs. Obviously, they are not hard forecasts, because the assumptions on which they are based will undoubtedly change; but they at least provide some basis for thinking about the future.

Under the intermediate assumptions, the combined outlays for Social Security and Medicare creep up only marginally as a percentage of GNP over the next twenty years but then rise substantially (by about four percentage points from 7 to 11 percent of GNP) as the baby boom generation retires, before becoming relatively stable once again. But, although Social Security outlays fluctuate—going down and then rising—over the next forty years, Medicare outlays climb steadily throughout the period, greatly increasing their relative importance.[1] (The initial decline in Social Security is attributable to the 1983 amendments to the Social Security legislation, which provided for, among other things, a significant reduction in benefits relative to retiree's prior earnings, which is scheduled to phase in gradually early next century for workers who retire before age sixty-seven. Eventually though, the dampening influence of these amendments is far overshadowed by the retirement of the baby boom generation.) The continuously faster-than-GNP growth of Medicare outlays is attributable to two factors. The first is demography, including not only the general increase in the share of the aged population but also the increase within that population of the very old, who have relatively higher medical expenses. The second is increases in general health care costs per capita, which for years have greatly exceeded the rate of general inflation and are assumed to continue to do so, but by a much narrower margin.

---

[1] The data in Table 1 (and the later Figure 1) are based on the 1987 Social Security Trustees' Report and, therefore, do not reflect some additional recent cutbacks made in Medicare hospital reimbursement. These will result in a marginal reduction in long-term Medicare outlays.

Although the intermediate assumptions supposedly reflect the current "best guess," they are more likely than not to prove optimistic, particularly with regard to real rates of growth in the economy and of health care costs.[2] Different assumptions about these two and other relevant variables can dramatically alter the outlay projections. As shown in Table 1 the pessimistic assumptions yield a far different fiscal outlook: combined Social Security and Medicare outlays climb rapidly over the entire projection period, increasing by ten percentage points of GNP by the end of the retirement of the baby boom generation. This pessimistic projection series merits attention not because it portrays a likely outcome, but because it illustrates the sensitivity of estimates of the future fiscal burden to variations in the assumed trajectories of key variables. However, given the rosiness of the intermediate assumptions, the outlay trends they yield under current policies may well be on the optimistic side.[3]

---

[2] Even the pessimistic projections assume that the performance of both variables over the long run will be considerably better than it has been during the past fifteen years. For example, labor productivity increased at an average annual rate of about 1 percent since 1973, but the assumed long-run increase in the pessimistic projection series is 1.5 percent and in the intermediate series 1.7 percent. (These rates bracket the average for the past three decades.) And both sets of projections assume that inflation in health care costs, which has been running well in excess of the general rate of inflation, gradually converges to the general rate of inflation. The key demographic differences underlying the two projection series are with respect to fertility and death rates. The intermediate series assumes a modest rise in fertility rates and a slowdown in the rate of decline of mortality rates relative to the recent past. The pessimistic series assumes a somewhat faster rate of population aging resulting from both a continuing rapid decline in mortality rates and a modest decline in fertility rates.

Although rapid growth in the elderly population is a major contributor to the rising costs of current policies as projected in Table 1, there is another dimension of the changing composition of the population that should serve to moderate the fiscal severity of the picture portrayed there. Because of general population aging, youth's share of the total population is expected to fall by an amount equal to about half of the increase in the aged's share by the end of the retirement of the baby boom generation. However, per capita public expenditures for the pre-working-age population are only one-fourth to one-third those for the aged; and because these expenditures are much more a state and local responsibility, this relative shrinkage in the youth population will have only a minor effect on projected federal spending under current policies. Nevertheless, the total tax burden on the working-age population (and the strain on their private resources) should be relieved somewhat by this development.

Even granting this mitigating development, if the current public commitment to financial support for the aged is not scaled back, the working population appears to be facing major tax increases to pay for this support in the long run. In a display of unusual foresight, Congress attempted to provide at least partially for this contingency in the 1983 amendments to the Social

---

[3] The Social Security Administration actuaries also publish projections for an "optimistic" set of economic and demographic assumptions (not shown in table 8.1), which show a modest decline in combined Social Security-Medicare outlays as a percentage of GNP over the next twenty years, followed by an increase to a peak after the retirement of the baby boom that is about two percentage points higher than today's level.

Security Act. In addition to measures designed to avert the pending bankruptcy of the program's trust funds and to reduce long-term benefit commitments, the amendments included provisions for increasing Social Security's future revenues sufficiently to put the program on a sound financial basis well into the next century. Most important, the earmarked payroll tax paid equally by employers and employees on Social Security-covered earnings was scheduled to increase by one percentage point between 1988 and 1990 (from a combined level of 11.4 to 12.4). And, in a significant departure from past practice, half of Social Security benefits for persons with adjusted gross incomes in excess of $25,000 ($32,000 for couples) were subjected to income taxation, with the proceeds also destined for the Social Security trust fund. These steps were designed to produce large annual surpluses which would accumulate as sizable reserves in the Social Security trust fund over the next two to three decades (possibly exceeding $2 trillion) and could then be drawn down to pay for the retirement of the baby boom (see Figure 1).

However, although projected outlays and income for Social Security are in rough actuarial balance over the next fifty or so years under the intermediate assumptions, this does not necessarily mean that the total economic resources available to the population during the retirement of the baby boom generation will be any larger than they would have been in the absence of this build-up of reserves. Once the crossover point is reached (about 2019 in Figure 1) and the reserves start to be drawn down, the annual surpluses will become annual deficits, which will then have to be financed by either higher current taxes or growing deficits in the consolidated account. If the reserves in the Social Security trust funds are to be of any real benefit in easing the financial burden of the retirement of the baby boom, they must be used to enhance economic growth in the interim, so that the total economic pie that is available to be divided up among the aged and nonaged population is larger than it otherwise would have been. This will be the case only if the Social Security surpluses, which are a form of public savings, result in higher overall national savings and investment than would otherwise occur. But they cannot have this effect if they are used simply to offset deficits in other federal accounts.

Unfortunately, this is what is already occurring. As you well know, the annual Social Security surpluses—which are expected to total $97 billion (nearly 1 1/2 percent of GNP) by 1993 and to continue growing—are being used to avoid the need for even larger politically painful on-budget deficit reductions. Were it not for these surpluses, the total federal baseline deficit would be well above $200 billion and not projected to decline in the 1990s under current policies (see Table 2).

If general deficit reduction does not continue to supply sufficient temptation, yet another threat to the Social Security surpluses is looming a little further down the road. Unlike the action on Social Security, no provision has yet been made even on paper for the financing of Medicare's projected faster-than-GNP growth over the next twenty years, let alone the retirement of the baby boom. Medicare has two components. The larger one, Hospital Insurance (HI), accounts for about 60 percent of total program outlays and is financed by a 2.9 percent (combined employer-employee) payroll tax on Social Security-covered earnings. In the mid 1990s HI will begin to run annual deficits that, even under the intermediate assumptions, will deplete its trust fund soon after the turn of the century and will exceed 1.6 percent of GNP (3 percent of payroll) once the baby boom generation is retired (see Figure 1). Medicare's other component, Supplemental Medical Insurance (SMI), which covers physician and outpatient services, is financed one-quarter from enrollee premiums and three-quarters from general revenues. Consequently, under this arrangement, as SMI outlays continue to rise relative to GNP, so, too, will the tap on general revenues required to finance the program. Under these conditions, it will be politically tempting to reallocate the Social Security surpluses in order to postpone Medicare's day of reckoning or to finance new health care benefits for the aged.

In sum, the interaction of population aging population, public policies, and rising health care costs has resulted in a substantial increase in the share of total economic resources being devoted to the support of the aged population over the past several decades, and this share undoubtedly will continue to increase over the foreseeable future. By how much is difficult to predict, because the amount will depend on the uncertain course of the economy and health care costs, among other things, as well as on future adjustments in public policies in support of the aged. However, it appears likely that the revenues necessary to finance projected expenditures under current policies would have to increase modestly over the next two decades and by at least 4 percent of GNP by the end of the retirement of the baby boom—with the bulk of the increase earmarked for health care. And this, of course, does not take into account any possible increase in federal expenditures to finance either catastrophic acute health care for the aged or their rapidly growing long term health care needs. In the meanwhile, surpluses in the Social Security trust funds, which could be used to augment national savings and investment and ease the eventual fiscal burden of the retirement of the baby boom, are not doing so. Instead they are essentially being used to finance other current federal expenditures, their off-budget status nothwithstanding.

Policy Options

The policy options that might be considered to deal with the complex set of issues raised by this fiscal picture are obviously too numerous and varied for me to deal with in any comprehensive fashion here. All of them are politically unattractive, since they involve the need to worry about ways of dealing with the long-term fiscal gap that the aging of the baby boom will impose on top of the existing problem of the federal deficit. However, both problems must be faced up to, and the sooner the better. Here, I will attempt to sketch out a few of the major alternatives that I believe to be the most fruitful as a basis for further discussion after the formal presentations by panel members this morning.

The most immediate implication of the fiscal picture I have just outlined is that the projected Social Security surpluses should not be used to finance, either implicitly or explicitly, other federal expenditures including Medicare.[4] That is, the goal for general deficit reduction over the 1990s should be to more or less balance the books exclusive of the currently projected annual Social Security surpluses. This, of course, will be no mean feat, since achieving a balanced budget even inclusive of Social Security is proving to be so politically difficult. Nevertheless, this is the objective for which we should strive in the design of our overall fiscal policies.

---

[4] Indeed, an argument could be made that surpluses should be accumulated in the Medicare trust funds, just as in Social Security, in anticipation of the retirement of the baby boom.

Even if this objective is met we will still have a longer run problem to deal with, which will eventually require some combination of an increase in taxes on the working age population and reduction in the current commitment for public financing of health care and retirement benefits for the baby boom in their aged years. I will return to the former issue later, but first let me indicate that I believe the greatly improved current and prospective economic status of the aged provides scope for some of them to shoulder more of the burden for financing their retirement and health care without undermining the improvements in economic security already achieved for them (i.e., while still preserving the essential functions of the current social insurance system for them). It is important to note at the outset, however, that the desirability of preserving that system has been increasingly called into question in recent years. Numerous proposals (politically unthinkable a decade ago) have cropped up for replacing the current system with private provision ("privatization") for retirement and health care for the vast majority of the aged, accompanied by expanded provision of means-tested benefits (as in Medicaid and SSI) to cushion the consequences for the less fortunate. At the very least, proponents of privatization argue, the current working generation ought to be given the choice of opting out of the social insurance system. Such partial or total privatization, it is alleged, not only is more in keeping with the American ideology of individualism and free markets, but also would reduce taxes on the working population and solve the fiscal problem posed by rapid aging of the population.

The issues raised by various proposals for privatization and means testing are too complex to discuss fully here. But it is worth noting the major opposing arguments, because they are sufficiently compelling to justify the focus here on less extreme adjustments to current policies. Briefly, these arguments are as follows.

First, it is true that switching from our present social insurance system for the aged to a system much more oriented to the private sector could eventually permit a sizable reduction or elimination of the current sources of taxation supporting Medicare and Society Security. But because of the present reliance on pay-as-you-go financing, unless social insurance benefits were abruptly terminated (which would be neither politically feasible nor socially fair), the current and near-future generations of working taxpayers would have to finance two systems: the current public one for the aged and near-aged populations and another one financed through added private savings for themselves. This would approximately double the expenditures for these purposes for these households.

A second argument against privatization is that private insurance markets are generally unable to provide actuarially fair policies. The primary reason for this is that the risk of adverse selection—the ability of low-risk persons to opt out of insurance—means that actuarially fair insurance markets simply do not exist, except where participation is compulsory (as for Social Security and Medicare). Furthermore, the private market—unlike the public one—cannot guarantee a steady flow of real income during retirement (for any given amount of savings over the working years) because of the uncertainties posed by fluctuations in inflation and interest rates.

Beyond these two arguments is the overriding fact that, in contrast to many public programs, Social Security and Medicare have been extremely successful in accomplishing their objectives and have earned unusually strong and widespread support among Americans of all ages. They were created and have thrived because the alternatives were unacceptable to the overwhelming majority of the public. These programs are particularly popular among the broad middle class, many of whom would otherwise experience substantial hardship in their middle years from supporting their parents and to whom the prospect of having to rely on their own children or "demeaning" means-tested public programs in their own old age is fearsome indeed. Surveys as recent as the mid-1980s have shown that, despite some lack of confidence in the future ability of the system to provide for their retirement, even two-thirds of young adults thought that Social Security taxes were fair and that their level was about right or too low.[5] In short, some modifications in our social insurance system for the aged appear to be needed to respond to changing circumstances, but privatization as a solution looks like another case of the proverbial baby and bath water.

What, then, are the most promising ways to alter social insurance programs to increase the burden on the aged for the financing of their retirement and health care while still preserving the essential functioning of the current social insurance system? Several are possible, but they all share certain general characteristics. The wide array of options boils down to two fundamental approaches: the burden can be increased in a way that either is or is not related to income. Refinements come into play over the implementation

---

5. Hugh Heclo, "Generational Politics," in The Changing Well-Being of Children and the Aged edited by John L. Palmer, Timothy Smeeding, and Barbara B. Torrey (Washington, D.C.: The Urban Institute Press, forthcoming).

of these approaches. The increased burden can be achieved directly, through explicit reductions in benefits, or indirectly, through measures such as taxation of benefits or increased premiums in the case of Medicare. Also, timing is important: changes could affect the aged of today or only those after some future date.

The advantages of income-related approaches are obvious in light of the considerable heterogeneity in the economic status of the elderly population. In particular, income-related approaches can minimize the adverse consequences for the lower- to middle-income aged, who currently are highly dependent on Social Security and Medicare to maintain their prior standards of living and avoid poverty. But income-related approaches are not without their disadvantages. One problem is the potential for administrative complexity. The implementation of non-income-related approaches requires no new information about recipients, whereas income-related approaches require information about the income not only of recipients, but also of their households. Neither type of income information is currently collected by Medicare or Social Security, and instituting any mechanism to do so would be a complex and costly undertaking for the government and an undesirable imposition on recipients and their families. For these reasons, use of the tax system to accomplish the income-relating process is vastly preferable, even though some precision in targeting might be lost by less-than-ideal definitions of income or family unit.

A second disadvantage of income-related approaches is their potential for undermining political support for the programs. This erosion of support could be widespread—because of a generally perceived violation of the "earned right" concept underpinning social insurance—or it could be concentrated among higher-income recipients, who might increasingly perceive social insurance as a bad deal for them, because their added burden would be much larger. (Non-income-related approaches obviously also have this potential, but to a lesser degree.) Although this concern is legitimate, there are several mitigating factors. The first is that the sine qua non of our social insurance system—universal eligibility for all workers (and their dependents, where relevant) with covered earnings—would be retained. The "earned right" would still be there; only the net benefit ultimately derived would be affected. Second, to the extent that taxation of benefits is the chosen instrument, benefits would simply treated on a comparable basis with other sources of income, such as private pensions, that are currently included in the tax base, in accordance with our collective notion of what constitutes ability to pay. Finally, when all is said and done, our current system of social insurance constitutes a "good deal" even for prospective higher-income recipients. By virtue of being in on the early stages of a pay-as-you-go system, retirees at all income levels are currently receiving benefits of value far beyond what they contributed. And although the "windfall" component of benefits for new retirees is now declining rapidly with the maturation of the system and changing demography, it has a long way to go before calculations of self-interest should become problematic.[6]

---

6. Assessing just how good a deal Social Security is for current and prospective elderly persons is an extremely complex matter. The assessment is highly dependent on the specific circumstances of individuals (for example, their age at retirement, their position in the income distribution, their life expectancy, whether or not they receive dependents' benefits), the assumptions made about the future course of the economy (especially real interest rates), whether only payroll taxes paid

While I stated at the outset of this discussion of policy options that removing the Social Security surpluses from consideration in current federal deficit concerns would be ideal, I also recognize that this may not be politically feasible. The temptation to use these projected surpluses to continue to finance other federal expenditures, or new ones for the aged, or simply to grant payroll tax relief, may prove to be too politically tempting. Furthermore, this temptation could be further exacerbated if some of the measures I just suggested to deal with the long run problem were adopted in the near term, this leading to an increase in revenues earmarked for the trust funds, and therefore, the size of the surpluses.

In light of this temptation, an alternative approach would be to consciously take steps to reduce these projected annual surpluses by reducing earmarked Social Security taxes. However, if this is done, care must be taken to ensure that there is a (1) commensurate short-term increase in general revenues that is applied to general deficit reduction and (2) a commensurate decrease in long-term Social Security benefit commitments beyond that which

---

by workers or those paid by both workers and their employers are considered, and the value placed on such things as Social Security's ability to guarantee a steady flow of real income during retirement (which, as noted earlier in the text, cannot be done by private annuities). The numerous studies that have been done vary considerably in the way they deal with these matters and, therefore, in the conclusion they reach. They all agree (1) that all current retirees, especially those with high earnings histories, receive benefits from Social Security far in excess of any contributions made over their working lifetime and (2) that this excess value will be declining over time for successive future groups of retirees, with the net redistributive effects of Social Security among these groups becoming more progressive. However, it is impossible to arrive at any definitive answer to the question of just how good (or bad) a deal Social Security will prove to be for today's youth or young workers, based on these analyses.

would be planned in any event to close the fiscal gap which will arise during the retirement of the baby boom. Perhaps the simplest way to accomplish the former would be to "unearmark" the proceeds from income taxation of Social Security benefits so that they would become general revenues rather than flowing into the trust fund reserves. This taxation is currently projected to yield nearly $6 billion by 1992 and, if expanded by reducing the AGI thresholds above which it applies and/or subjecting to taxation a greater proportion than the current 50 percent of benefits, could yield an additional $10-$20 billion. (It is important to note, however, in line with point (2) just above, that unless steps are also taken to reduce future benefit commitments by an amount that would roughly offset the future loss of revenues attributable to the currently scheduled degree of income taxation of benefits, unearmarking these proceeds will add to the annual Social Security deficits that will begin soon after the retirement of the baby boom.) A more complex approach would be to reduce scheduled payroll tax rates in return for an explicit increase in income or other general revenue taxes (again with a commensurate decrease in Social Security benefit commitments in the long term).

Conclusion

There is a growing gap between projected public expenditures for the aged and the share of GNP currently devoted to supporting such expenditures. Substantial adjustments in current policies are both desirable and inevitable, although just how substantial is impossible to specify with any precision, because the answer depends in part on the uncertain size of the fiscal gap and future economic gains of the aged.

One clear lesson to be drawn is that population aging should further compel us to deal with two issues that presumably would be high on the public agenda in any event—the promotion of long-term economic growth and the control of cost inflation in health care. Here it is worth underscoring two points: (1) If the Social Security surpluses are to make a meaningful contribution easing the fiscal burden attendant to population aging, they must not be used for other purposes, including general deficit reduction. (2) Because escalating real health care costs are not limited to Medicare or the aged, any approach to restraining those costs that will be both effective and capable of sustaining public support in the long run will have to go far beyond changes in Medicare reimbursement to more fundamental changes in the way the nation organizes and finances the provision of health care in general.

I have also alluded to various approaches to modifying Medicare and Social Security in line with the growing capability among some of the aged to shoulder more of the burden for the financing of their retirement and health care. In the immediate future these measures could be used to finance any expansion in assistance to the aged or to contribute to general deficit reduction. Eventually they could at least partially alleviate the increased pressures on the public purse that will attend the retirement of the baby boom.

Here it is important to establish priorities among the measures discussed. Income-related approaches that operate through the tax system are strongly preferable. They would concentrate the added burden on those among the aged who are in the best position to bear it. Of course, as noted earlier, there are limits to how far income-related approaches can be pushed before they become widely viewed as inequitable to higher-income aged people. Thus, depending on how much of the growing fiscal burden is ultimately borne by the aged rather than by the working population (through higher taxes), some across-the-board measures might eventually be considered desirable. However, across-the-board measures will be less problematic if they apply only to future groups of the aged, because even the lower-income members of these groups would have the advantage of greater overall financial resources and a longer lead time with which to adjust.

The desirability of such a lead time for adjustment is only one of several reasons why the nation needs to focus now on the kind of policy adjustments discussed in this chapter. Pressures for general deficit reduction and selective expansion of benefits will continue to motivate more immediate changes in social insurance and other programs serving the aged, and actions to greatly improve Medicare's fiscal outlook will be required in the next decade. Furthermore, whereas Social Security, per se, may be on sound financial footing for the next few decades, its rapidly accumulating reserves are already generating strongly conflicting views on their desirable disposition. A coherent longer-range vision of how our society wants to finance retirement and health care for the aged is needed, so that any potential changes in public policies can be assessed on the basis of their consistency with such a vision and appropriate adjustments in the behavior of individuals and private institutions can be fostered. Otherwise the country may have to make more wrenching and less palatable changes in public policies and private circumstances in the future.

Many people tend to pose the issue as one of inevitable conflict between the aged and nonaged populations. Changes in taxes on the working-age population clearly will have to be part of the equation. But it is important to keep two points in mind concerning the trade-off between relatively lower benefits for the aged and higher tax burdens on the nonaged.

First, today's working-age population will be tomorrow's aged population. Thus, in the longer run, the issue is not "us" versus "them" but the role all Americans would like to see public policies play in promoting economic security over their lifetimes. Less consumption when people are working will increase the economic resources available later and vice versa. The overall structure of taxes and public benefits will be an important determinant of the prevailing lifetime pattern of resource usage.

Second, Americans of tomorrow in all age groups will almost certainly have a much higher level of material well-being than American in similar age groups have today. In the four decades following World War II, per capita real GNP increased at an average annual rate of nearly 2 percent, leading to more than a doubling of the overall standard of living. Even if this rate of growth were to slow to, say, 1.5 percent annually (about that assumed in the intermediate projections in Table 1), per capita real GNP would double once again by the time the baby boom generation is fully retired. Under these circumstances, closing a fiscal gap of 4 or even more percent of GNP certainly need not entail an onerous burden from today's perspective—so long as this burden is distributed reasonably equitably both between and within the aged and nonaged populations. Developing consensus on just what constitutes equitable distribution will be an arduous task for political leadership. But if the task is pursued in the context of policies to enhance long-term economic growth and constrain cost inflation in health care, it need not prove herculean.

TABLE 1

Current Policy Projections of Social Security and Medicare Expenditures as a Percentage of GNP, 1990-2050

	Social Security	Medicare[a]	Total
Historical data			
1965	2.4	(b)	2.4
1970	2.9	0.7	3.6
1975	4.0	0.9	4.9
1980	4.3	1.2	5.5
1985	4.7	1.7	6.4
Projections			
Intermediate assumptions			
1990	4.7	2.1	6.8
1995	4.7	2.3	7.0
2000	4.4	2.5	6.9
2005	4.2	2.8	7.0
2010	4.4	3.0	7.4
2015	4.9	3.2	8.1
2020	5.6	3.7	9.3
2025	6.2	4.2	10.4
2030	6.5	4.5	11.0
2035	6.5	4.8	11.3
2040	6.4	4.8	11.2
2045	6.3	4.8	11.1
2050	6.2	4.8	11.0
Pessimistic assumptions			
1990	5.2	2.3	7.5
1995	5.2	2.8	8.0
2000	4.9	3.3	8.2
2005	4.8	3.8	8.6
2010	5.0	4.5	9.5
2015	5.6	5.3	10.9
2020	6.5	6.3	12.8
2025	7.3	7.6	14.9
2030	8.0	8.5	16.5
2035	8.3	9.0	17.3
2040	8.5	9.1	17.6
2045	8.7	9.1	17.8
2050	9.0	9.0	18.0

SOURCES: For 1965-1985, Historical Tables of the Federal Budget; for 1990-2050, 1987 Annual Report of the Social Security Board of Trustees of the Federal Old Age, Survivors Insurance, and Disability Trust Funds.

a. This includes both the Hospital Insurance (HI) and Supplemental Medical Insurance (SMI) components of Medicare. Long-term projections are provided by the Medicare actuaries only for HI. SMI outlays are assumed to rise from 63 percent of HI outlays in 1990 to 66 percent in 1992 (as in the Congressional Budget Office's five-year projections) and then to remain a constant 66 percent of the HI outlays.

b. Medicare was not implemented until the late 1960s.

TABLE 2

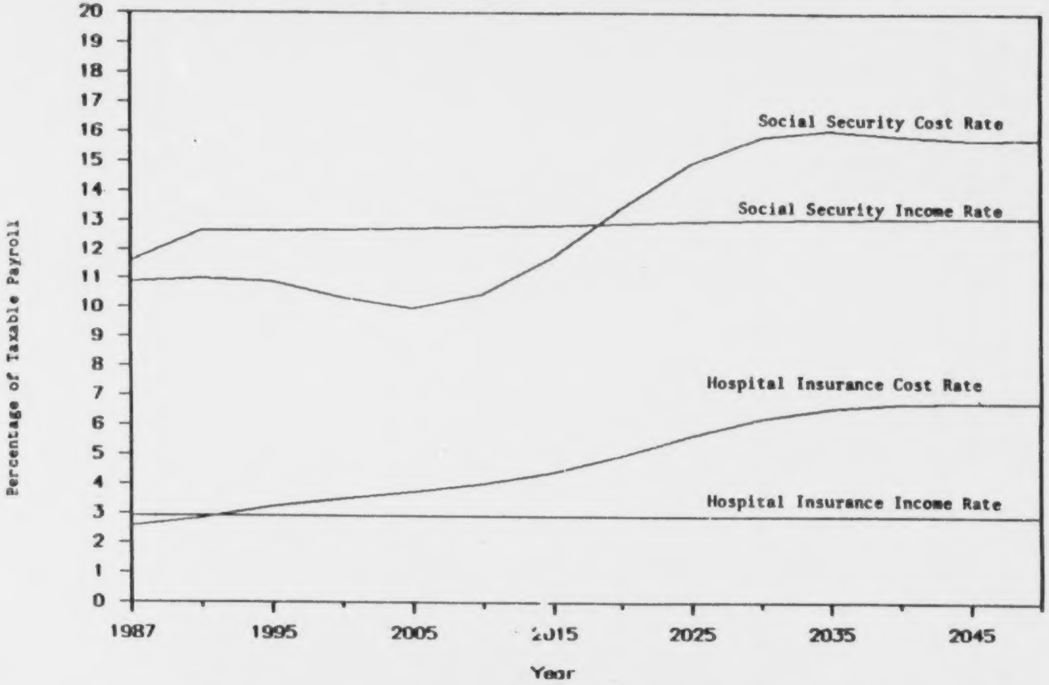
CBO Baseline Deficit Projections Excluding and Including Social Security
(by fiscal year, in billions of dollars)

	1988 Base	Projections				
		1989	1990	1991	1992	1993
Deficit excluding Social Security	195	222	225	229	232	231
Social Security surplus	37	46	58	71	81	97
Deficit including Social Security	157	176	167	158	151	134

SOURCE: CBO, The Economic and Budget Outlook: Fiscal Years 1989-1993, Table II-3.

FIGURE 1

Annual Cost and Income Rates for Social Security and Medicare Hospital Insurance
Under Current Policies and the Intermediate Assumptions 1987-2050



SOURCE: 1987 Annual Report of the Board of Trustees of the Federal Old Age, Survivors Insurance, and Disability Insurance Trust Fund.

Chairman Chiles. Mr. Myers?

STATEMENT OF ROBERT J. MYERS, FORMER CHIEF ACTUARY, SOCIAL SECURITY ADMINISTRATION, AND FORMER EXECUTIVE DIRECTOR, NATIONAL COMMISSION ON SOCIAL SECURITY REFORM

Mr. Myers. Thank you, Mr. Chairman. I, too, have a written statement which I will summarize.

Chairman Chiles. Your statement in full will be placed in the record.[1]

Mr. Myers. Thank you, Mr. Chairman.

First, to define a few terms, I shall use "social security" to mean just Old-Age, Survivors, and Disability Insurance, and I will not be discussing the medicare program.

Second, when I refer to "current cost" or "pay-as-you-go" financing as it relates to pension plans or social security, this means that, over brief periods of years, income and outgo of the plan will be roughly in balance, but there will be a small contingency fund equal to perhaps a year's benefit outgo to meet the effect of any business cycles.

I shall also base my discussion on the intermediate estimate in the 1987 Trustees Report. I recognize, of course, that over 75 years in the future much can happen, so that the actuarial estimates may go awry, but I think that the same general problems exist insofar as what is being discussed here today.

I also hope, in presenting my remarks, to dispel a number of rather widespread myths that occur these days about the financing of social security, both as it was in the past and as it is currently.

Going back to the original act in 1935, many people assert that it was funded exactly like a private pension plan, i.e., fully funded. This was not the case. It was intended to be funded by building up a fairly large reserve and then maintaining it; in other words, to have partial reserve financing. The principle also was adopted that the system was to be self-supporting; that is, that the payroll taxes and any other earmarked sources of income would completely finance the system over the long run.

Over the years following the passage of the original act, there was somewhat of a shift in the funding basis. There was less emphasis on building up a large fund, and in practice, it developed more or less into pay-as-you-go financing in the 1950's and 1960's in retrospect—although, in prospect, there was still the apparent congressional intent to build up large funds and to maintain them.

In 1972, the legislation attempted to change over much more closely to a pay-as-you-go basis. Congressional committee reports and the Trustees Reports, year after year, said that the system was to be financed on a pay-as-you-go basis, and that this was desirable.

However, in 1977, and again in 1983, the actual legislation—if the results come out the way that they were estimated to be—would not have been pay-as-you-go financing, but, rather, sizable funds would have been built up. Under the 1983 act, as it was developed from recommendations by the National Commission on

---

[1] See p. 136.

Social Security Reform and then congressional action, very large trust funds would be built up in the next few decades—in nominal dollars, some $7 trillion by 2015, at which time the balance reaches its highest peak in relative terms, then about 5½ years' benefit outgo. The fund would build up even after that, in dollars, and would reach a peak of $13 trillion in the year 2030, but then thereafter would decline, until being exhausted in about the year 2051.

What would happen then? Present law does not say, but if one assumes that the same benefit provisions would be maintained, the tax rate would have to be increased in 2051 and thereafter by about 1.25 percent each on both the employer and the employee. This does not seem to me to be such a hard burden to bear. However, it is a fact that the payroll tax rates would have to be raised if the system were to be continued unchanged.

I think that it also should be noted that the National Commission did not make these recommendations of building up a large fund so as to take care of the benefits of the baby boomers as it is so widely said. That just was not the case. The National Commission, as those of you who were around at the time of the 1983 amendments realize, was under great political pressure. Some people did not want to change benefits at all; others wanted to change benefits and not change taxes. There had to be high-level political bargaining and diplomatic efforts to come to a solution to meet the immediate problem that, by mid-1983, the system would have not been able to pay benefits promptly.

So, therefore, the National Commission and, I think that it is fair to say, the Congress focused on the problem of the 1980's. This problem was—I think that it can safely be said this late in the decade—solved. The trust fund balance at the end of last year was $69 billion. It was estimated in 1983 to be only $22 billion then, according to the assumptions that were used to provide the financing basis of the 1983 amendments. So, the system now is in great shape. The trust fund now is some $47 billion higher than it was estimated in 1983 to be at this time.

But the National Commission and the Congress, too, I think said about the long range—yes, we realize that there are the long-range problems, and we will solve them on the average. We do not have the time to do it now on a year-by-year basis, because we are just so rushed to get a good political solution to the short-range problem. I think that the knowledgeable members of the National Commission realized that there was this really unwise situation of building up a huge fund and then using it up, and then wondering what to do next. But I think the view was taken by those individuals that this problem could be handled after we got over, as it were, the panic situation of 1983 and were certain that the system would survive for the decade.

So, I am convinced that it just is not correct that the intention of Congress or the National Commission was to build up a big fund and then use it up for the baby boomers.

Further, it should be realized that there is not a large drop in the cost of the program after the baby boomers pass from the scene. The coming generations of retirees are almost equally as large, and there is a high cost involved in all years from about 2030 on.

What are the problems and the undesirability of the present funding basis? First, if it were carried out, the trust funds would own probably all of the national debt. or at least a very substantial part of it, at some time and would then have to liquidate its investments over a number of years thereafter. Now, that does not necessarily mean, as some people say, that taxes would have to be raised then to liquidate the national debt. Rather, one possibility as to what would have to be done then would be to sell the national debt to other parties. As the trust fund depleted its bonds, the public would have to buy them up. How this would occur, and what the results would be, I cannot say.

I think that another very serious danger from the standpoint of a sound social security system is that the apparent availability of large fund balances, running into the billions and even trillions of dollars, would cause many people to say: "Look at all that money there. Let us liberalize the benefits." We even hear some pressures from that direction at the moment, saying "Look how big the fund is going to be; surely, we can afford to spend more now." Obviously, if the system is liberalized now or over the next few years, that is just going to create more financing problems in the decades to come when the baby boomers and the later generations arrive on the retirement scene.

Another problem that I see is the availability of large amounts of money from year to year in the next 20 years that are easy to borrow. Therefore, Congress has less incentive to balance the general budget, as the two previous speakers have said.

My possible solution to this, from both the standpoint of the social security system and the budget, is to roll the tax rate in 1989 back to the level it was before 1988. As you will recall, at the beginning of this year, there was a significant increase in the tax rate. On the last page of my prepared testimony, there is a schedule of what I think the tax rate ought to be according to the intermediate estimates. The result of this would be to roll back the rate for just the Social Security part of the system to what it was in 1984 to 1987, and then to hold at that level until 1996. If the experience continues as it is estimated to be and, as previous speakers said, because of the low-cost period then due to the small number of annual births in 1925 to 1940, the tax rate can be reduced slightly in 1996. Of course, later on, obviously, the rate will have to be raised.

The whole basis of the tax schedule that I propose is to put the system on a pay-as-you-go basis, by letting the fund build up to equal about 1 year's benefit outgo, and try to maintain that level thereafter.

Now, some will say, "yes, but you are going to have to raise tax rates higher eventually than they are now, and this may be a burden that is not easy to bear." Under the schedule that I developed, there would be the same rate from about the year 2025 on as there will have to be under present law anyhow beginning in 2051. The law does not say so, but it is a fact that, if the experience follows the intermediate estimate, beginning in the year 2051, the tax rate will have to be raised because the trust fund will then have been exhausted, and the benefits will have to be financed solely by the payroll tax receipts, and not by using the interest on the fund or by using up the principal of the fund. Thus, if such a tax rate can be afforded in 2051, it can be afforded 25 years earlier.

Of course, obviously, any tax-rate schedule that is put in the law will have to be looked at from time to time to see how it is doing with the actual experience and the expected future experience. But in any event, the tax rates should be adjusted from time to time to keep the system on a pay-as-you-go basis, with a fund not too large, but not too small.

I suggest that the Advisory Council on Social Security, which is a statutory group that is to be appointed by the next President at some time after January 1989, should have as its major effort this question of looking at the long-range funding of the system and also how the actuarial status of the program should be measured.

Finally, I have a few comments about budget problems, which have been discussed to a considerable extent by the previous speakers. I agree with them that the present method of including the operation of the social security trust funds in the Gramm-Rudman-Hollings targets does give a false picture of the general budget situation. Bitter medicine as it might be to those who are concerned with the budget, I think that the operations of the social security system should be taken out of the Gramm-Rudman-Hollings targets, and the real budget deficit situation faced.

One must remember, as I said at the beginning, social security has, over the years, been a self-supporting system. It has had no budget deficit within itself, on the average, over the more than 50 years of its existence.

One final point is that some people recommend that there should be permanent reductions in social security benefit provisions in order to help the budget. I strongly believe that this is not a proper statement or analysis. Social security benefits may, at some time, have to be permanently reduced (for example, if longevity continues to increase even more than estimated, we might have to have a "normal" retirement age higher than 67 eventually). But if arbitrary, permanent reductions in social security benefits are made, at the same time reductions in the tax rates needed to support the program should be made, because it is a self-supporting program. If it has a lower cost, then it needs less taxes.

So, if both of those things are done at the same time, what would have been gained from a general budget standpoint, even if the operations of the social security system are counted in the general budget or in the Gramm-Rudman-Hollings target?

Thank you, Mr. Chairman.

Chairman CHILES. Thank you, sir.

[The prepared statement of Mr. Myers follows:]

STATEMENT BY ROBERT J. MYERS PRESENTED TO THE COMMITTEE ON THE BUDGET, U. S. SENATE, ON SOCIAL SECURITY TRUST FUNDS AND THE BUDGET, MARCH 24, 1988

Mr. Chairman and Members of the Committee: My name is Robert J. Myers. I served in various actuarial capacities with the Social Security Administration and its predecessor agencies during 1934-70, being Chief Actuary for the last 23 of those years. In 1981-82, I was Deputy Commissioner of Social Security, and in 1982-83, I was Executive Director of the National Commission on Social Security Reform.

This testimony will deal with the problems that I see as being present with the manner in which the Social Security program -- Old-Age, Survivors, and Disability Insurance (OASDI) -- is being financed and funded under present law. Such problems relate both to the program itself and to the general budgetary situation of the nation.

Various Methods of Funding Social Security

First, I will briefly discuss the advantages and disadvantages of current-cost funding as against advance funding (full-reserve or partial-reserve) for a benefit system with rising relative costs (say, as a percentage of taxable payroll) over the years. The discussion thus applies to systems like OASDI. By current-cost, or pay-as-you-go, financing is meant that, on the whole, income will approximately equal outgo each year, with there being a fund built up and maintained which will be in size approximately 6 - 12 months of outgo. Such a contingency reserve would be utilized to finance the system when business recessions temporarily reduce tax contribution income and would be built up again during times of economic recovery.

Certain matters in connection with funding relating to plans of individual employers (especially non-governmental ones) are not applicable to national social insurance systems -- for example, the possibility of going out of business or of not having new entrants. The following discussion will relate only to the OASDI system.

The advantage of full-reserve funding -- and, similarly, to a considerable extent, of partial-reserve funding -- is simply that thereby the contribution rate ultimately can be lower than it would be under current-cost funding. This occurs because the interest on the assets accumulated from the excess of income over outgo in the early years of operation is available to meet the outgo. Assuming that the assets are invested in government debt obligations (as seems to be the only proper procedure), the resulting interest income is "valid". If these obligations had not been held by OASDI, they would have been held by the general public, and the same interest on them would have been paid.

It could be argued that the higher contribution rates in the early years and the lower ones later under full- or partial-reserve financing would result in greater intergenerational equity. This is so because the initial covered population, especially those near retirement, receive "windfalls" (as measured by considering the value of the benefits as against the contributions paid) as compared with the situation for young new entrants. Accordingly, a level contribution rate (or, even, a higher rate in the early years than later) -- as might be provided under a full- or partial-reserve funding approach -- would alleviate the situation.

The disadvantages advanced against full- or partial-reserve funding are more of a "political" nature than of a theoretical nature. One problem would result from the huge amounts of investments involved, which could absorb a very large portion of the national debt (or even all of it) and thus not leave sufficient for the general investment market. Another problem might be that the ready availability of large amounts of money that could easily be borrowed by the General Fund of the Treasury would encourage excessive governmental spending.

Another problem is that the presence of a very large fund balance could create politically irresistible demands for greatly liberalized benefits "because of all that money there". The difficulty then would be that, if such liberalization did occur, and the fund balance were drawn down, the OASDI costs in future years would be increased -- and the long-range financing problems would be greater.

Actual Funding Basis of Social Security Program

Next, I will take up the subject of how OASDI has been funded over the years.

The original system (1935 Act) was funded on a partial-reserve basis (and not on a fully-funded basis, as is sometimes alleged). The 1939 Amendments, which expanded the system to include auxiliary and survivor benefits, was also funded on a partial-reserve basis (and did not institute current-cost funding, as is often erroneously stated). It was, however, funded at a lower relative level than it was under the 1935 Act.

During the 1960s and 1970s, the emerging experience of OASDI was such that the funding was actually on a more or less current-cost basis. However, until 1972, the funding basis for the estimated future experience was still "partial reserve". The 1972 legislation introduced the concept of current-cost funding over the long range, but the 1977 Amendments (and the 1983 Amendments as well) did not follow this principle.

Under current law, the funding basis of OASDI is not -- as is often said -- pay-as-you-go financing, but rather is such that very large fund balances will be built up during the next 40 years, under the intermediate estimate. The fund ratio -- which is the fund balance expressed as a percentage of the next year's outgo -- peaks at 545% in 2015, when it is estimated at $7 trillion in current dollars, or $2½ trillion in 1988 dollars. After 2015, the fund balance continues to grow in terms of current dollars, reaching a peak of about $13 trillion shortly after 2030. After the end of the build-up period, the assets of the trust funds will be drawn upon, and they will be exhausted shortly after 2050. At that time -- if the benefit provisions are left unchanged -- additional financing, higher payroll tax rates, will be necessary. These increases in the tax rate would, on the basis of the intermediate-cost estimate, have to be 1.3% for both the employer and the employee over the rate now scheduled for 1990 and after -- not an unmanageable rise. No legislative intent has seemed to have been present to change over to this funding basis from the current-cost approach adopted in 1972 and supported over the subsequent years by the Board of Trustees.

How the Present Fund Basis for OASDI Came About

One might well ask why the National Commission on Social Security Reform, when it developed recommendations that led to the enactment of the 1983 Amendments, did not consider the manner in which the long-range financing of the OASDI program would unfold. While the members of the Commission were aware of this situation, there was the much more pressing matter of developing a solution to the short-range financing problem. The OASI portion of the OASDI Trust Funds was estimated to run out of money in mid-1983, so that, if no action were taken, benefit checks would not go out on time. Accordingly, the National Commission devoted its major efforts to the financing problems of the 1980s, although at the same time attempting to assure that, on the average, the program would be financed adequately over the next 75 years.

The National Commission thus developed its recommendations by assuring, as much as possible, that the year-by-year financing in the 1980s would be adequate and that, over the long range and on the average, sufficient financing would be provided. As we know, the use of averages can be deceptive at times. It certainly is the case in this situation, as compared with looking at the year-by-year development of the trust-fund balances over the long run. I think that it is fair to say that the National Commission knew that once the short-range problems were definitely solved -- as they certainly have been -- then a closer look should be given to the long-range situation. This definitely should be a major function of the statutory Advisory Council on Social Security that is to be named after next January.

What Should Be Done about the Funding Basis of OASDI?

I believe that OASDI should be financed on close to a current-cost basis. Income should slightly exceed outgo each year, in order to build up a fund which is about equal to one year's outgo -- and certainly no more. This should be accomplished by changing the future tax-rate schedule so as to more nearly match the trend of outgo. In the near future, the tax rate should be a little higher than this, so as to build up the fund balance to the desired goal of one year's outgo.

My proposed tax schedule to accomplish this result, developed on the basis of the intermediate-cost estimate, is shown in Table 1, along with the present one. The tax rate for 1989 would be reduced from the 6.06% rate now scheduled, which went into effect this year, and should be rolled back to the 5.7% rate that prevailed in 1984-87, and then held at that level through 1995 (thus eliminating the increase to 6.2% scheduled for 1990). Thereafter, the rate should be decreased by 0.7% in 1996, after an adequate fund had been accumulated. The tax rate would need to be increased in 2015, and then again in 2020 and 2025.

My proposed tax rates would be lower than presently scheduled in 1980-2019, higher in 2020-50, and the same thereafter. If some object to the higher rates for 2020-50, note that they are no higher than would ultimately result under present law if the benefit structure were left unchanged.

Under my proposal, the trust-fund balance would slowly, but steadily, build up over the years. It would reach $400 billion in 2015 (in 1988 dollars), as compared with a peak then of $2.5 trillion under present law -- and as compared with $69 billion at the end of 1987. Then, in 2050, the balance under my proposal would be about $900 billion, as against bankruptcy under present law. The roller-coaster effect under present law would be replaced by slow, but steady growth.

A good way of looking at the situation under both present law and my proposal is to consider the fund ratios. Under present law, the ratio grows from 30% at the beginning of 1987 to a peak of 545% in 2015 and then falls to zero about 35 years later. On the other hand, under my proposal, the ratio would slowly increase to about 100% before the turn of the century and would remain at that level thereafter. Once again, the stability of my proposal is evident.

Some might argue that future experience may not follow the intermediate-cost estimate, and then what of my proposal and its revised tax schedule? The answer is that the tax schedule would have to be reviewed from time to time as the experience unfolds, and as new estimates of the future experience are prepared. Congress could then legislate different scheduled tax rates or changes in the benefit provisions. But this would also have to be done if the present tax schedule and funding method were to be continued.

A procedure that might be used in lieu of revising the tax schedule in order to accomplish the desired result of pay-as-you-go financing would be to have automatic adjustment of the tax rate so as to maintain approximately the desired fund ratio. A description of such a procedure was contained in a staff memorandum furnished to the National Commission on Social Security Reform ("Methods to Assure Adequate Financing of OASDI Program Through Loans or Through Automatic Adjustment of Either Benefits or Taxes", Memorandum No. 63 (Revised), November 22, 1982).

Relationship Between Social Security Program and National Budget

The manner in which, under present law, the OASDI Trust Funds first build up to huge amounts in the next four decades and then decrease over the next two decades until being exhausted would have significant deleterious effect on public-debt management and on Budget operations.

The relationship between the operations of the OASDI Trust Funds and the Budget is frequently misunderstood by the general public. Beginning in fiscal year 1986, the operations of the trust funds have been out of the Unified Budget, so that any excess of income over outgo of the trust funds does not reduce the Budget deficit. However, anomalously, it was provided that these trust-fund excesses of income over outgo are counted to meet the Gramm-Rudman targets for Budget-deficit reduction. The result is thus virtually the same as if the trust-fund operations were included in the Budget, but the imbalance is really still there, and the National Debt is increased by the amount of the trust-fund excesses of income over outgo. In other words, the result of this procedure is, in the short run, to make the targets easier to meet and thus to make the Budget deficits appear smaller than they really are.

At times, individuals propose that the Budget deficits should be reduced by making long-term permanent reductions in OASDI benefits. As indicated previously, because OASDI is not included in the Budget, such effect would not actually occur, although the Budget targets would be more readily met. Again, this seems to be a matter of deceiving ourselves. Perhaps even more importantly in this respect, because OASDI is financed on a completely self-supporting basis, any reduction in long-range benefit costs should correspondingly produce reductions in the tax rates required to support the system. The net effect of this action and reaction is essentially counterbalancing, so that, insofar as the Budget is concerned (even including the Gramm-Rudman targets), nothing would really be achieved.

If the financing basis of the OASDI program is restructured along the lines that I have proposed -- namely, so that its funding is on a pay-as-you-go basis -- not only would OASDI be on a sound and more desirable basis, but also the Budget picture would be clearer and more realistic. The short-range deficit situation insofar as the Budget is concerned would be portrayed vividly and honestly. Also, there would not arise the onerous situation that, under present law, would be placed on the Secretary of the Treasury for several decades following about 2025. Such situation is that the Secretary would have to sell huge amounts of government debt obligations each year to the general public because the assets of the OASDI Trust Funds would then have to be liquidated to meet the excesses of benefit outgo over tax income.

All in all, a revision of the funding basis of the OASDI program so that it is on a true pay-as-you-go basis is desirable from every viewpoint, not only as to the program itself, but also as to budgetary and debt-management procedures.

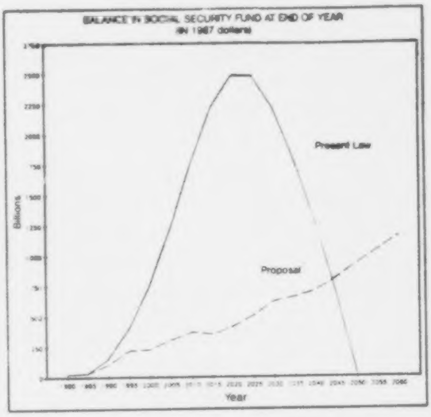
Table 1

PRESENT AND PROPOSED SOCIAL SECURITY TAX RATES* FOR EMPLOYERS AND EMPLOYEES (each)

Period	Present Law	Proposal	Difference
1984-87	5.7%	5.7%	–
1988-89	6.06	5.7	– .36%
1990-95	6.2	5.7	– .5
1996-2014	6.2	5.0	–1.2
2015-19	6.2	6.0	– .2
2020-24	6.2	6.8	+ .6
2025-50	6.2	7.5	+1.3
2051 and after	7.5**	7.5	–

*These rates do not include the tax for the Hospital Insurance portion of Medicare — currently 1.45% (and so scheduled for all future years). Also, in 1984, the employee rate was reduced by a tax credit of 0.3%.

**Rate necessary to finance scheduled benefits.



Chairman CHILES. Senator Domenici, you were not here for the opening. Do you want to make some opening remarks?

Senator DOMENICI. Well, I do have some questions. I am going to yield to you after just sharing these thoughs with the three witnesses and you.

I think that it is good that we had this hearing. The National Economic Commission is supposed to make recommendations on the budget fix and capital formation. That is their charge. There could be nothing more relevant because accumulation of huge, huge surpluses is capital. On the other hand, there is some false image that might be created about the deficit because of its accumulation.

I guess ultimately the National Economic Commission is going to have to analyze the nature of that surplus on the future of the American economy, how to make sure the surplus is there when it is needed, as well as making sure it is used in the best possible way to not cause the deficit to be out of hand. While it supplies in the best way possible its capital formation qualities to this economy.

Frankly, as I now look at it, it is very much more complex than I thought it would be. I do have a few questions, and I thank you, Mr. Chairman, for calling this hearing.

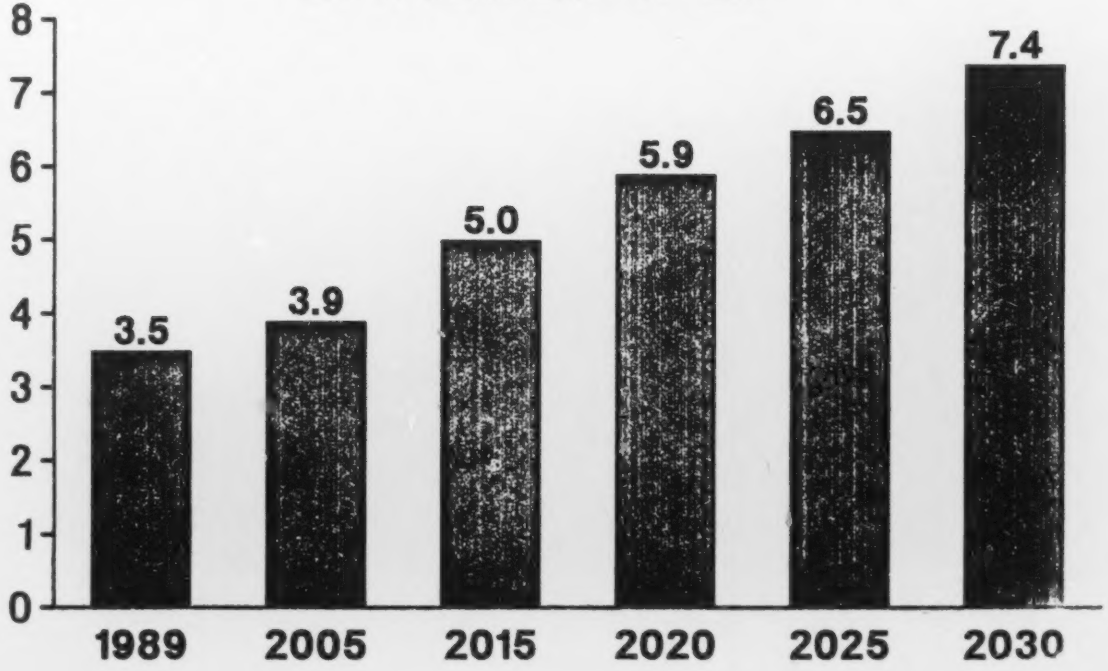
Chairman CHILES. Thank you, sir.

Before we start with questions, I think we have some charts that will illustrate just kind of how bad things will get if we no longer have the large surpluses in the Federal deficit.

The first chart is the unified budget deficit as a percent of GNP. Even assuming that the social security surplus will grow larger, this chart shows that the unified deficit will climb higher as a share of GNP over the next 50 years and out into the future. This assumes that we do not get the operating deficit under control, that the operating deficit as a share of the GNP will remain constant. It also assumes that medicare costs will continue skyrocketing, especially when the baby boomers retire.

Chart 1

UNIFIED BUDGET DEFICIT
AS A PERCENT OF GNP



1989 is fiscal year.
All others, calendar years.

Prepared by Sen. Budget Comm. Staff
March 21, 1988

The unified deficit will grow to even higher levels than the worst years of the Reagan administration. In 1983, the deficit reached 6.3 percent of GNP, the highest level since World War II. In 2025, the deficit would be 6.5 percent and a staggering 7.4 percent in 2030.

This chart clearly demonstrates a very alarming trend. If we meet currently projected demands to support and care for our aging population without at the same time cutting the deficit, resulting from other areas of the Federal budget, then the total unified deficit is going to climb higher and higher to an unprecedented level.

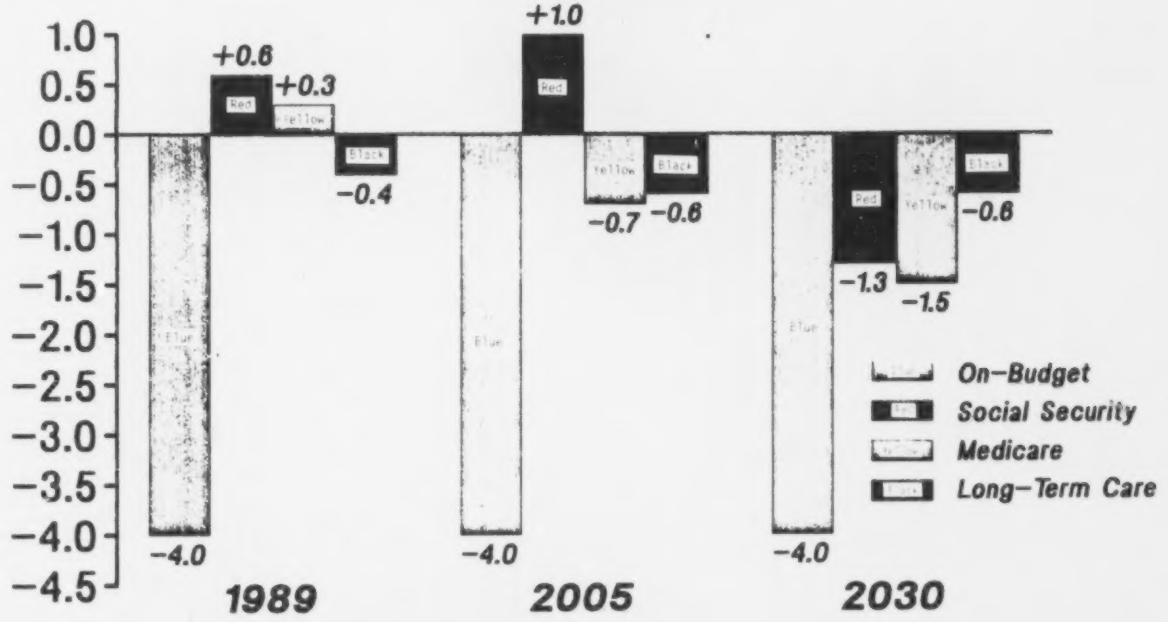
Chart No. 2 shows what makes up the unified deficit in 1989 compared to the years 2005 and 2030. 2005 represents the peak earning period of the baby boomers, when the social security trust fund will be running its heaviest surplus. 2030 represents the baby boomers' retirement when social security will be spending down its reserves and beginning to run large annual deficits.

Chart 2

COMPONENTS OF THE DEFICIT

AS A PERCENT OF GNP

Selected Years



Prepared by Sen. Budget Comm. Staff

March 24, 1988

We have assumed that the operating deficit of the Federal Government for all nonelderly related programs remains constant at about 4 percent of GNP. That is the first blue bar for each year. Social security is shown in red, and the balance in the medicare trust fund is shown in yellow. The Federal Government's expenditure for long-term care, assuming no legislative initiatives, which rise from 0.4 percent GNP in 1989 to 0.6 percent in 2005 and 2030, is shown in black in the chart.

In 1989, social security is running a large surplus, and medicare a small surplus. These partially offset the rest of the budget, which is running a large deficit. By 2005, the social security surplus has grown to 1 percent of GNP; medicare is already running a serious deficit of 0.7 percent of GNP.

By 2030, everything is under water. Social security can no longer offset the operating deficit. Social security will be running a large deficit of 1.3 percent of the GNP, and medicare will run a deficit of 1.5 percent of GNP. As a result, the total unified deficit is that 7.4 percent of GNP that we saw in Chart No. 1.

A lot of people have started to understand that the social security surplus is masking the huge and growing deficit in the operating budget. What I think is less clear is that unless we get the operating deficit under control, future generations are going to be saddled with this enormous burden to support baby boomers even if social security surpluses grow as projected.

Dr. Bosworth and Dr. Palmer, isn't it true that when we pay for the operating deficit with a social security surplus we are just underwriting current consumption?

Dr. BOSWORTH. Absolutely.

Dr. PALMER. Yes.

Chairman CHILES. And am I right that when the social security trust fund cashes in its Treasury notes to make payments to beneficiaries in the next century, general fund tax increases are going to be needed to honor those notes. So the increased burden is going to fall on future taxpayers.

Dr. BOSWORTH. That is true, unless you were willing to try to sell them to the private sector, as was mentioned by Mr. Ball's testimony. But what that would involve is a dramatic decline in the national savings rate at that point and fall-off in investment.

I think in a practical sense, what you suggest is exactly right.

Chairman CHILES. Well, I wish you would try to help us think about ways, both of you, or any of you, that we could separate and insulate the social security surplus so that we can get some real pressure to get the operating deficit under control.

Should the Gramm-Rudman-Hollings targets exclude social security?

Dr. PALMER. I think that is the most immediate obvious way to accomplish what you are talking about, because that will immediately emphasize the extent to which the deficit is there in accounts exclusive of social security and force Congress and the public to confront that and to try to aim towards balancing the budget exclusive of social security overtime.

Chairman CHILES. Dr. Bosworth?

Dr. BOSWORTH. I fully agree with that.

Chairman CHILES. Mr. Myers?

Mr. **Myers**. Yes, I agree with that.

Chairman **Chiles**. Dr. Palmer, in your testimony, you discuss the possibility of lowering social security benefits to the baby boom generation in conjunction with steps taken now to reduce the social security surpluses. What forms would such benefit reductions take? Could they encompass any changes in the retirement age? And if so, what provisions should be made for those that are not healthy enough to work longer?

Dr. **Palmer**. Well, I think you have to separate out what might be done in the short run versus what might be done in the long run. In the short run, I would not suggest explicit reductions in social security benefits, but certainly subjecting more of the benefits to taxation is a distinct possibility. And the increase in general revenues that that would yield could be devoted to general deficit reduction.

In the longer run, some combination of an increased tax on the working population or relative reduction in social security benefits will probably be necessary as we move into the retirement of the baby boom, as all of us have indicated. I think that some consideration, then, might be given to raising the retirement age somewhat if, as Mr. Myers said, longevity continues to increase. Another possibility would be a very gradual phase-down of the replacement rates that people receive from social security. Neither of these are things I would move on quickly, but would phase in over a very long time period, if they were done.

I think you are right, though; the problem of people who are not necessarily in good health is still there. So if you raise the retirement age, you might have to also expand somehow the provisions of the disability portion of social security so that it would be a bit easier for people in that 63 to 67 or 68 or 69, if you raise the retirement age, to receive eligibility for disability if health were a problem for them maintaining their labor force participation.

Chairman **Chiles**. Is there any likelihood that significant portions of the baby boom generation would have greater savings than their parents, which would allow some of the benefits to be changed?

Dr. **Palmer**. Well, I think there is, yes. The past 20 or 30 years have seen a remarkable improvement in the economic status of the aged, and I would expect that to continue into the future, assuming we deal reasonably responsibly with the immediate problems with the deficit that we face. The aged population and the nonaged will both be wealthier, far wealthier, than they are today in the year 2025 or 2030, and this provides some maneuvering room for both increasing taxes and reducing the degree of reliance on social security and medicare that we now have.

Chairman **Chiles**. Dr. Bosworth, Dr. Palmer has testified about the possibility of reducing the payroll tax on today's workers in exchange for reducing some social security benefits, some of that when they retire. He does note that such a plan would require an equal increase in other taxes to prevent an increase in the unified deficit.

What are your views about this plan? Would it be feasible to reduce social security benefits for the baby boomers in light of their potential for larger lifetime savings? Could you raise the retirement age for nondisabled workers beyond 67?

Dr. Bosworth. Well, I think the answer is obviously you could. You can always cut the magnitude of the benefit payments.

I have myself some doubts about it on the desirability of it for a couple of reasons. First of all, be very careful about the testimony here today. The problem is not that the retirement of the baby boom generation imposed an enormous financial burden that cannot be handled. In fact, if you just save the social security surplus you are now taxing, the problem goes away. This is very manageable from social security.

The problem is not these huge costs in social security down the road. The problem is this current generation wants to consume all the surplus. We should not make a mistake about the nature of the economic problem.

Second, it seems to me, in terms of providing for retirement, the social security system has proved to be one of our true success stories in the sense that it has effectively eliminated poverty as a serious problem among the elderly.

Third, the baby boom generation is, reducing their savings. In the 1980's, the private savings rate of that age group appears to have fallen quite dramatically. I just do not see the evidence that the average baby boomer is providing more for their retirement. Instead, we have a real social problem that we could say, oh, cut the benefits and go provide for yourself. And I personally would prefer that in my own case because I have the income with which to provide for my own retirement.

But I think it raises a lot of problems for lower income people in the future and how they are going to be provided for. The social security replacement rate is rather low compared to other countries. It has turned out to be set right now in the United States at approximately a level that guarantees that the retired will not fall into poverty. That does not mean they have a great retirement life, but they are not in poverty. That is not a bad cutoff point to make for the whole thing, although I have no big argument if somebody wanted to cut another couple of points.

The other one that bothers me a little bit is the notion of lengthening the retirement age. For me, I think the lengthening of the retirement age would be a good idea. I could sit behind my desk for another 3 years, and probably nobody would know the difference. [Laughter.]

There is, however, a problem for a lot of other occupations. That is, if you look at the health data, what is happening is Americans are living longer, but their health status at a given age is not improving.

Senator Domenici. Is not what?

Dr. Bosworth. Is not improving. In other words, if you look at workers who are blue collar—truck driver, if you like—age 65, are they in better health condition at age 65 than a truck driver was 20 years ago? No. It is easy——

Chairman Chiles. You do not think so?

Dr. Bosworth. The data shows they are not. There are surveys of this to try to examine it.

Chairman Chiles. I know some of them are not, but I would have thought that the average 65 would have been better, but when you get up to 75 or so——

Dr. Bosworth. I think I would make a distinction. The average 65-year-old will live longer, that sense of health, but his physical condition or her physical condition at age 65, surprisingly, is not particularly better.

What we have done is find a way to stop the elderly from dying, but we have not put them into good health.

Now, for me, why not lengthen it? I would just as soon work another 3 years and sit behind that desk. It is just about like being retired. [Laughter.] But it is not the same thing for a truck driver.

Now, European countries, several of them, have tried to address this problem by, in fact, having different retirement ages for different occupations. That is one way to go. Others have tried to address the problem with disability, in general making people like truck drivers who cannot work, they go on disability for a couple of years.

I would only warn you about that we went through an experience a decade ago with that. The enormous public debate that starts: That guy could have worked; he is faking it; he is really not in bad health. Remember the big disputes we had over the rapid growth of disability insurance benefit payments a few years ago?

I think it leads to a society where everybody questions everybody else: I do not believe you. You are claiming you got a bad back, and you really have not got a bad back.

A final point I would make, it may be a good idea to go to a later retirement age. I would only point out that you are out of step with social trends in the country, which everybody keeps indicating they intend to try through their own means to retire at an earlier age. I am a little worried even now that about the year 2020, when these people discover that the retirement age has been moved back, and then they look at that big surplus in the fund, they are going to start screaming: Why can't I retire? It may be difficult, in fact, to maintain the current roll back of the retirement age that we have had.

I think it should be considered, but I just raise a lot of questions that you would have to investigate in more detail before you could really make a final recommendation on it.

Chairman Chiles. Mr. Myers, under your proposal to combine the employer-employee payroll tax, it would be 10 percent between 1996 and 2014. Then it would rise to 15 percent during the next 10 years. How politically feasible do you think it would be to increase the payroll tax by 50 percent in such a relatively short period of time? During this time, income taxes and other taxes probably will have to be increased in order to pay for medical care costs, long-term care costs and the burgeoning baby boom retirement population.

I see Senator Kennedy has just introduced a major expansion of the long-term care budget. I am just wondering, doesn't that make your plan to raise social security benefits by that amount at that time kind of politically difficult?

Mr. Myers. I believe that it would be feasible to do this because it would be done gradually, just perhaps a little bit at a time every couple of years, just like the increase this past year. On January 1, the tax rate went up by 0.36 percent on both the employer and the employee, and there was not really that much complaint about it. As I have said before, I do not think the rate should have been increased in January from the standpoint of the financing of the system. So, I think that, when such action is done gradually, as long as the tax rate does not get to too high a level, it can be done readily.

If a much higher level of the tax rate were needed—as, for example, if the experience turned out to be very high cost in nature, because people lived much longer than we now anticipate—then the "normal" retirement age should be increased instead of a tax-rate increase.

Now, if I might say one thing, I must disagree with Mr. Bosworth in what he just said about the fact that, although people are living longer, they are not healthier. The National Commission on Social Security Reform looked into this matter. We received testimony that varied considerably. Some people took that viewpoint; others took the opposite position.

I have seen data that convince me that people are not only living longer, but they are healthier and able to work longer. I think that we should not take too shortsighted a view of the retirement trends in the past few years or even the past decade or two. I think that, over the long run, as people live longer, they will be healthier, and they will be able to work longer. The jobs will also be those types where they can work longer.

So I do not think it is a set issue that we cannot raise the "normal" retirement age if mortality rates and life expectancy improve greatly.

Chairman CHILES. Senator Nickles.

Senator NICKLES. Thank you very much, Mr. Chairman.

I want to thank you for holding the hearing. As you know, I have been concerned about this issue. I am probably more concerned about not just the social security fund maybe distorting the true picture of the deficit, but it is other trust funds as well.

I might ask the panelists, you are all aware of the fact that the social security trust funds and the surpluses that it is running in the next several years. Are you also concerned about the fact that other trust funds—last year we had a surplus of $60 billion; in 1989, it is going to be $67 billion. So if you add the surpluses together, you are looking at a surplus for $97 billion in 1988 and $112 billion in 1989. And it goes to $124 billion in 1991.

If you are really trying to get a true picture of the net operating deficit, shouldn't we look at all the trust funds and those surpluses? Because we are running a tremendous surplus in civil service retirement, military retirement, other trust funds as well, which those bills are going to be coming due. And to use the chairman's analogy, people are going to be saying, well, I have contributed; now you owe me, when, in effect, those funds have been spent for general operating purposes.

Isn't the problem bigger than just social security trust funds? Doesn't it apply to all the trust funds?

Dr. BOSWORTH. I think you have to distinguish between whether or not they raise a saving issue. If it is a transfer through time from one period to another period, from one generation to another, I agree with you they do. I think the same sort of issues, for example, would emerge with respect to the medicare trust fund; the same sort of issues would come up with respect to Federal employee retirement funds and how those ought to be viewed. But I do not see the same sort of thing with respect to a highway trust fund, say.

Senator NICKLES. The Highway Trust Fund is not——

Dr. BOSWORTH. I think you should be aware of it, but you should not think of it as raising the same sort of long-term savings and investment conflicts between generations.

Senator NICKLES. I would concur. We really have a net operating deficit of $230 to $240 billion, and we need to be looking at that figure. I think that is my point.

Now, let me ask the other point. I have heard several people in this dialogue mention saving the social security surplus. Dr. Bosworth, you mentioned that. But if you do not balance the budget, you have no change in—if you are not actually saving that money—in other words, okay, if we said we are going to have a separate account, we are going to put the $30 billion or $45 billion or $100 billion in a separate account, but if you are still incurring the same net operating deficit, the effect on the economy is exactly the same.

Dr. BOSWORTH. That is exactly right. That is why I tried to emphasize that this is not a crisis for social security. It is a crisis for the rest of the budget that you are using the wrong targets. If you include social security, you have got this picture of a declining budget deficit or that we are making progress. No, you are not. You are just borrowing from another fund rather than borrowing from the public.

Senator NICKLES. I concur. So are you saying that we should balance the budget on net operations and actually be saving the social security money or the civil service retirement or government retirement, saving those as you would in a private system?

Dr. BOSWORTH. You should be adopting budget targets. One of them might be an outright balanced budget, which is the way historically we have at least aimed for, but never make.

Yes, on the notion of a current account budget that excludes the social security and similar trust funds.

Senator NICKLES. Let me ask an additional question. I have heard several people say right now we are taking the surpluses and we are exchanging that for government IOU's or bonds. And I have heard people say, well, when we get to the year 2020 or 2010, and we are actually paying more out of the social security fund than is paid in, and we have this enormous social security trust fund, which is really nothing more than government IOU's, I have heard somebody say that the bonds would be paid off. We have never had instances of that happening.

Mr. Myers, you mentioned the possibility that maybe somebody would come in and purchase it. But basically, what we have always done in the past is just increase the debt, and we have borrowed money to pay the interest. I am concerned that that is exactly what we will be doing in the year 2020 or 2030. So it will be accumulating, really, as the chairman or somebody else had mentioned, they said, well, when we start drawing down the trust fund reserves, there is no money to draw down. All we will be doing is borrowing more money against some paper figure.

Dr. Palmer. This is right. I mean, at that point we will presumably either have to raise taxes or run deficit financing as the reserves are drawn down. The basic issue, as Barry keeps coming back to, is that from the viewpoint of the economic effects in the long run and the state of the economy, it does not matter what the size of the surpluses in social security are or are not. That is just a paper issue. What matters is what the overall national savings rate is now and in the near future, and the extent to which that works for us so that you have a bigger total economic base when you get out there and have to face some combination in liquidating the reserves of raising taxes, or whatever.

You have got to promote stronger economic growth, and the only way we can do that is to balance the budget exclusive of these things so the Federal Government is a net saver.

Senator Nickles. Do you think it would be helpful if all of us who have worked on this problem would try and help to educate the American people away from this idea that we have this humongous social security trust fund that they seem to think is accumulating significant wealth and tell them, as all three of you have mentioned, that we are spending that money for other purposes concurrently?

Dr. Palmer. Absolutely.

Senator Nickles. I thank you.

Thank you, Mr. Chairman.

Mr. Myers. Could I say something about this? I think that the situation is different with regard to the civil service retirement and the military retirement funds. There, any funds that are being built up are coming from the government appropriations, and not from taxes collected from the general public. This is really only a bookkeeping transaction and is a "wash" item from the standpoint of the budget.

Senator Nickles. That is true.

Mr. Myers. Such action raises the National Debt, but it is a counter-balancing matter as far as the budget is concerned.

Senator Nickles. I might ask one final question. Would all of you think that it would be a financial mistake or maybe irresponsible if we had a very significant expansion in obligations such as medicare, long-term health care, catastrophic, drug benefits or something that would have enormous additional cost pressures in the out-years?

Dr. Palmer. I think there are some real needs there that are going to have to be met. I think there is going to be a real difficult set of issues. And to the extent to which the public sector and the Federal Government is going to be involved in meeting these, I would place some priorities within the areas you are talking about. In some of them, I would be more in favor of expansion of Federal expenditures than others.

But the critical thing is that whatever expansion is made, it has to be financed along the way.

Senator NICKLES. Don't you see a real opportunity where people are saying, well, look at the surpluses in the payroll tax, so let's go out and spend it?

Dr. PALMER. That is a real risk. That is why I think all of us are saying you have got to get those social security surpluses out of this picture and protect them and insulate them and talk about balancing the budget exclusive of them. Then if you are going to expand benefits for the aged or other groups, you have got to find a way of financing it as you do it.

Senator NICKLES. Thank you very much.

Mr. MYERS. I think that the best way of doing this is not to have the excessive funds there, not confuse people by saying: "Look at all that money there; we can expand benefits in the areas you mentioned, and it is not going to cost anything." It is going to cost something to expand benefits. And if these changes are proposed, their costs ought to be right out in the open, and their advocates should say that it will require additional taxes or tax rates to finance them.

Senator NICKLES. Thank you.

Chairman CHILES. Senator Riegle, we are discussing social security. It is a quasi-retirement system that you might have some interest in.

Senator RIEGLE. I have a very strong feeling about it, Mr. Chairman. That is why I want to make a comment or two about it.

I think the social security system today is in pretty good shape, and we ought to keep it that way. The real problem here—it seems to me we dance around it, and we make it a lot more complicated than it really has to be—is that we are engaged in an accounting trick. We use the buildup in the social security surplus, which gets larger in the future, to hide the real size of the operating deficit in the Federal budget. I think this accounting game is profoundly misleading.

We ought not only take social security out of the Federal budget, because we ought not deceive anybody, particularly the public, or ourselves, by saying that the deficit is really lower than it is. The true operating deficit of the budget is much higher than we say it is, and we are going through that handstand, essentially, to try to satisfy Gramm-Rudman-Hollings. But we maintain a fiction, when the facts are really different.

Now, according to the spread sheet that we have here, the social security surplus in fiscal year 1989 is $46 billion. If you take the Gramm-Rudman projected deficit target of $136 billion for 1989—which I do not think we are going to hit in any case—and then add back the social security surplus, we are looking at a deficit of at least $182 billion. And I think it will be far higher. That does not even address the issue of other trust funds.

So the first thing we ought to be doing, and one of the great things we could do, Mr. Chairman, before you leave this chairmanship, would be to insist on accurate accounting and accurate presentation here, and get out of this handstand where we use the surpluses to hide the size of the real deficit.

Now, people would squawk to high heaven because the President loves to live with that fiction, and others do as well. Nobody right now wants to face that fact. Everybody wants to tiptoe past that question. On the related issue as to what——

Chairman **Chiles**. I happen to think you are absolutely right on that, and it is something that we do have to address. I plan to do it.

Senator **Riegle**. Let me make this suggestion. I know the chairman feels that way. Why don't we see if we can draft an amendment to the budget for this year that puts the issue in plain language before the Congress and gets rid of that accounting trick that we are manifesting. We are here today because this accounting trick becomes profoundly misleading as the surpluses build up. I think there should be an iron separation between the social security trust fund and the rest of the budget, and I think we ought to put an end to the current accounting practice. We ought not to try to fool the financial markets, fool ourselves, or fool the people. We ought to face up to the issue of what the true operating deficit is in the budget.

The related question as to how the surplus social security funds ought to be invested, to me is a separate issue. It seems to me that if you are going to say we cannot invest it in government bonds, it is the same thing as saying to the citizen, look, do not go out and take a payroll savings deduction because government bonds are a bad investment. I assume government bonds are a good investment. Investing social security funds, in government bonds, just like individuals invest in government bonds, is a prudent way to invest as long as the proceeds are not being squandered along the way.

But, in effect, they are being squandered because we are perpetuating this accounting gimmick that makes it appear as if we are, in fact, running a lower deficit than we are. So let us craft an amendment this year, and let us ask people to step up to that question, and let us start acknowledging the real deficit. I think we would be doing everybody a favor.

Chairman **Chiles**. We will certainly look at that.

Senator Domenici?

Senator **Domenici**. Thank you, Mr. Chairman.

Mr. Bosworth, I wonder if you might answer this. You are not from Wall Street, but maybe you could tell me whether you think the Wall Street movers and shakers that we are always worried about—and we ought to be with reference to money matters—are concerned about the deficit that Senator Riegle describes or the unified budget deficit? And if it is the latter, which I believe it is, why?

Dr. **Bosworth**. I would agree with you with what they are concerned about, I think primarily because they have got a horizon of about 2 weeks.

Senator **Domenici**. For certain, they have no horizon to the year 2020, 2030. That is right, isn't it?

Dr. **Bosworth**. Yes.

Senator **Domenici**. I think most of the issues have been made, but let me try one more. I have a serious concern that no matter what we try to do with this huge surplus as it accumulates—and, frankly, I do look at it slightly different than some who have talked here—I really believe it is a huge forced savings on the American people and on the American economy. And it will soon be a forced savings rivaling, if not exceeding, the entire personal savings of the American population done in other manners. I have looked at the numbers, and I believe it will be more than what individuals will save in all the various ways a few years out.

But it seems to me that one real risk is—no matter what we do about taking it off budget—that there will be pressure not to do what we have been doing under the unified budget, but to look at it and say we can use it temporarily. That is a real fear. Not temporarily to pay the national debt, which is what it is being used for now; but, rather, we have some new program. We just absolutely need it now, and maybe we will be able to pay for it in 10 years, but for now let us pay for it out of that fund's surplus.

This will happen when you find programs that are related to health and senior citizen needs, so that you will be able to say: Well, we are really kind of making things better, or we are alleviating a problem.

Now, I do not know if any of you have that concern, but I do. I do not have a solution for it, but I do not think there is any way that you can insulate this Congress, from that kind of thinking.

Do any of you see this as a problem?

Mr. MYERS. The way that I see it is that suppose the fund is built up, and that very useful purposes are found for it. I suggest that then that fund should not be allowed to decrease in the future, but rather it should build up to a certain level and be maintained there.

The only way to do that, of course, is to have higher tax rates after about the year 2030 than under the present schedule. But as I said previously, for the present social security system, in the very long run, there must be higher tax rates than are now scheduled anyhow. And if the fund were built up and then maintained level thereafter, the interest earnings from it would help to some extent to finance the program.

However, this building up of the fund and maintaining it does not get away from one other problem; namely, that, if there is a huge fund, many people in the general public will say, "Look at all that money there; surely, you can liberalize my benefits in this way or that way or the other way". Then, the financing of the program is over the long run.

Senator DOMENICI. Well, let me ask another question. I am looking at a chart that says in the year 2025, that we will have $4.5 trillion in a social security savings account with no place to be invested, because it will be $4 trillion higher than the accumulated deficit of the country. What will we do with it?

In other words, it will buy the entire debt, and there is $4 trillion left over. Do we then change the law and let the private sector use it? You all may say that will never happen. It may not because that non-social security deficit may be higher or this savings, forced savings may be lower.

But if we are talking about 20, 30 years from now, a unified budget, off budget, on budget, I see a point in time when it is possible that there are $3 to $5 trillion in the social security trust fund invested in the accumulated debt of the country, and there is still a surplus in the fund.

What will we do? Any of you.

Dr. BOSWORTH. I think in a study we are doing, we have tried to look at that issue.

First of all, it would be a remarkable change in the rest of the budget if you really did balance it so there was no further growth in the Federal debt. Still, you are right. Suppose you did do that. It does turn out that the social security surplus, if the Federal deficit in the unified never increases, the social security fund would own more than all the Federal debt.

However, I do not think that raises nearly as serious a problem as people perceive. One is I doubt it would really happen. I cannot see a Congress getting that prudent, in fact. But suppose they did? One is I would suggest we, in looking at this question for the Social Security Administration, is that you could invest in—government-sponsored enterprise accounts would be the best, because these are the forms of things where the government can purchase the asset at very low risk to the social security fund, but not be making choices about whose investment is a good one, whose is a bad one. I think you want to keep the Social Security Administration out of the business of trying to decide whose project is good and bad.

If you look at the volume, particularly of mortgages that go through the government-sponsored agencies into the mortgage pools, with the growth in the economy that would be far larger. In fact, the social security fund at times in the past has helped some government-sponsored agency debt. This is not all that new.

Senator DOMENICI. Let me interrupt you. Frankly, I did not really want an answer to the hypothetical. I merely used it to make a point. People are talking as if the savings pool in social security is not part of the accumulated savings capital account of this country that is related to our future growth and future needs and is supplying capital. But these relationships should be a part of the discussion. We surely should not be in a position where we do not take these relationships into consideration. I mean, you can only save so much and only tax so much, and social security is a major part of the savings pool of the future and a major part of the taxation on people in the future. So it is relevant and should be available there to be invested in the American economy, and it is now because it helps us pay our debt. At some point, it will be very close to being able to pay all the debt off.

It may not be as exaggerated as my example, because that assumes a 4-percent constant deficit, four percent of GNP every year, and we do hope at some point we will be able to do better than that. We are moving in that direction.

So I do not think it is unreal to take a look at what it really means as a savings account and as a taxing measure in terms of macroeconomics. That is the only reason that I raise the issue.

I do want to say, I do not think the Wall Streeters look at the unified budget because their horizon is only two weeks. But I do think you made a good point. Still, I really think the unified Federal deficit is terribly relevant to what we really owe and how much we have really taxed our people. I do not think it is as simple as make two accounts out of it, and do not take the social security surpluses into account. I do not think it is that simple.

Thank you, Mr. Chairman.

Chairman CHILES. Thank you.

Dr. Bosworth, you really touched on this in your statement. I just want to touch on it again.

Imagine for a moment that we come to our senses and we get the operating budget in balance. We also get social security surplus, let it build up as expected over the next 25 years. That would give us a healthy surplus and a unified budget. Two weeks ago, when Chairman Greenspan was testifying before this committee, he suggested that a unified budget surplus would be an excellent goal to strive for.

Do you see any problems for the economy of large government savings? Would it be a drag on economic growth, or do you think that we could successfully manage the transition?

Dr. Bosworth. Well, I think the answer to that is we cannot be sure, precisely, because this is a very long-term process we are talking about. However, the comfort behind it is that the buildup of the surplus in social security is a very gradual process. So we ought to try and find out. And if we save this and invested it in capital, it is possible in the future arises the problem.

The reason there is a possible problem is that the growth of the labor force is going to come to an end. We have been, as a Nation, saving at a certain rate, but with a very rapidly growing labor force. So there has been some increase but not very much in the capital/labor ratio in the American economy. In the next couple of decades, if we continue to save at historical rates, the capital/labor ratio will start to go up very rapidly because there will not be any new labor. There will just be a rise in the capital/labor ratio. That will depress the rate of return to cap, and that weakens investment incentive.

I think the answer is, you now live in a world economy. What is going to happen is you are going to stop borrowing from overseas with this additional saving, and what is really going to happen is we are going to go back to exporting abroad. We are going to have a current account surplus; we are going to invest in overseas.

Now, when I look at the rest of the world——

Chairman Chiles. To become a surplus trading country would not be a bad problem, would it?

Dr. Bosworth. Yes, right. I would like to be faced with the difficulties of trying to manage that situation.

Chairman Chiles. Yes, right.

Those of us on the Budget Committee probably have a better understanding than most just how hard it is to forecast the future of the economy. When it comes to social security, we are trying to look a long way down the road. Over such a period of time, very small changes in economic assumptions could have a big impact on projections. In fact, if inflation really sort of heated up again and the COLA's went up or something.

Dr. Palmer, I would like to hear any of your comments. Can you comment on how realistic that you believe the IIB projections of the social security trust fund really are, and what kind of productivity increases are assumed?

Dr. Palmer. When I look at the various assumptions that they entail, my concern is that they are more likely to turn out to be optimistic than they are pessimistic; that the risks are more on the down side.

For example, they do assume a long-run rate of growth of productivity increase, I think, of about 1.6 percent a year. Now, that is in bounds with our historical experience, but it is considerably better than we have experienced in the last 15 years. So that does require that, in fact, we make a big improvement over the next decade to get to that long-run rate of growth in productivity.

That brings us back to the issues we have been talking about. In other words, that kind of productivity assumes a national savings rate that is consistent with those surpluses not being used to finance current deficits. They already assume sensible economic management in the interim, and that is exactly what we are talking about.

So the problem will look worse if we do not do the kinds of things that we have been talking about today to deal with the deficit.

Chairman CHILES. Do you agree with that, Dr. Bosworth?

Dr. BOSWORTH. Yes. I think you will find this forecast being criticized because you can always, on either side, argue about it. Another aspect that is extremely uncertain, in addition to productivity, is the future birth rate.

The intermediate projections have birth rates a little bit higher than recent experience.

Then there is a new issue, which the social security system never had to deal with before, that has an enormous effect on the projections. What do you think the interest rate is going to be over the next 75 years? Because the trust fund never had a big surplus, interest rates never made a big difference. But in the first 35 years, if you build up this huge surplus, and alter the interest rate expectations just a little bit, it is a completely different story.

I agree with John that the projections are optimistic on productivity and population growth. I think, however, they were very conservative in their assumption about what is going to happen to future interest rates. They have got a very low interest rate assumption relative to today's standards. On the whole, I could not do any better than that. I am not saying it is right, but I do not see a fundamental bias in the projections.

Chairman CHILES. Mr. Myers?

Mr. MYERS. I believe that the intermediate estimates—the so-called II-B estimates—are, in the aggregate, reasonable. You can look at each element separately and criticize it, as Dr. Bosworth has done about the productivity assumption, which he believes to be a little optimistic. On the other hand, some assumptions are, I think, are a bit pessimistic.

As to fertility, it is true that it is estimated that, in the future, there will be higher fertility than in the recent past. But there is present a counterbalancing element which, it seems to me, will automatically enter in—the effect of immigration. If we have lower birth rates, just like many Western European countries do, then more immigration will occur. So, these things tend to be counterbalancing.

Then, too, as to future life expectancy, is is assumed that mortality will decrease in the future. It may well decrease more. If so, we have the safety valve that the "normal" retirement age can be increased. I maintain that, as people live longer, they also will be healthier and have more work ability.

So these things, tend to balance out, and I think that the intermediate estimate is a good one to use as a base for discussion.

Chairman **Chiles**. Pete, do you have any further questions?

Senator **Domenici**. No, I do not.

Chairman **Chiles**. Well, we want to thank you all very much. It is a very worthwhile hearing for us, and we appreciate very much for being here to give your testimony.

[Whereupon, at 12:40 p.m., the committee adjourned subject to the call of the Chair.]

RURAL DEVELOPMENT

THURSDAY, MARCH 24, 1988

U.S. Senate,
Committee on the Budget,
Washington, DC.

The committee met, pursuant to notice, at 2:05 p.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Exon, Sanford, Boschwitz, Symms, and Grassley.

Staff present: Richard N. Brandon, staff director; and Barbara Chow, group leader for physical resources and general government.

For the minority: G. William Hoagland, staff director; and Bruce Blanton, senior analyst for agriculture.

Chairman Chiles. The committee will come to order.

Today, we are pleased to welcome a panel of distinguished guests to a hearing on rural development. I would like to thank Senator Fowler for bringing this important issue to the attention of the Budget Committee.

With us today are Mr. Bob Bergland, the Chief Executive Officer of the National Rural Electric Cooperative Association; Gov. Robert Jordan, the Lieutenant Governor of North Carolina; Dr. Gene Koepke, Dean of Business at Kearney State College; and Dr. Luther Tweeten, professor at Ohio State University.

OPENING STATEMENT OF CHAIRMAN CHILES

The 1980's have been a time of bitter harvest for rural America. The latest economic figures demonstrate a widening disparity between rural and urban areas. In 1987, the unemployment rate in rural counties was 7.2 percent, compared to 5.9 percent in metropolitan areas. The poverty rate is over 50 percent higher in rural areas than in urban counties. Rural educational levels remain significantly below metropolitan areas.

Sadly, many of the reasons for the economic distress faced by rural communities are tied up in events wholly outside their control. They have to do with the rising dollar and lowering export demand for agricultural products. They have to do with loss of demand for timber products caused by monetary and fiscal policy and changes in interest rates.

The response to the bleak prospects faced by young Americans born in rural communities has been eminently rational. They have been leaving in droves. The U.S. Department of Agriculture tells us that 632,000 people moved from rural to metropolitan areas from

1985 to 1986. Nearly half of all rural counties lost population during the 1983–1985 period, compared with 20 percent that lost population in the 1970's. As a result, rural America is aging. In 1960, the rural population was actually on average 3 years younger than their urban counterparts. By 1986, this trend had reversed, and now the population in rural counties is nearly 1-year older than their urban cohorts.

These trends certainly are alarming. They tell me that the future of rural America is also dying. If we cannot keep the young people interested in staying in their communities—with their vigor, enthusiasm and energy—these communities will disappear, and the social consequences for those left behind will be even more profound.

I do not think the White House's response to the serious problems faced by the rural economy has been adequate or appropriate. Instead of working to ease what is already a painful transition, the administration has proposed to terminate development programs such as the Economic Development Administration and the Appalachian Regional Commission. They have proposed to privatize housing and electric utility programs. Largely under the administration's influence, real funding for rural programs has declined by over 50 percent since 1980, compared to an average decline for all nondefense discretionary spending of 20 percent.

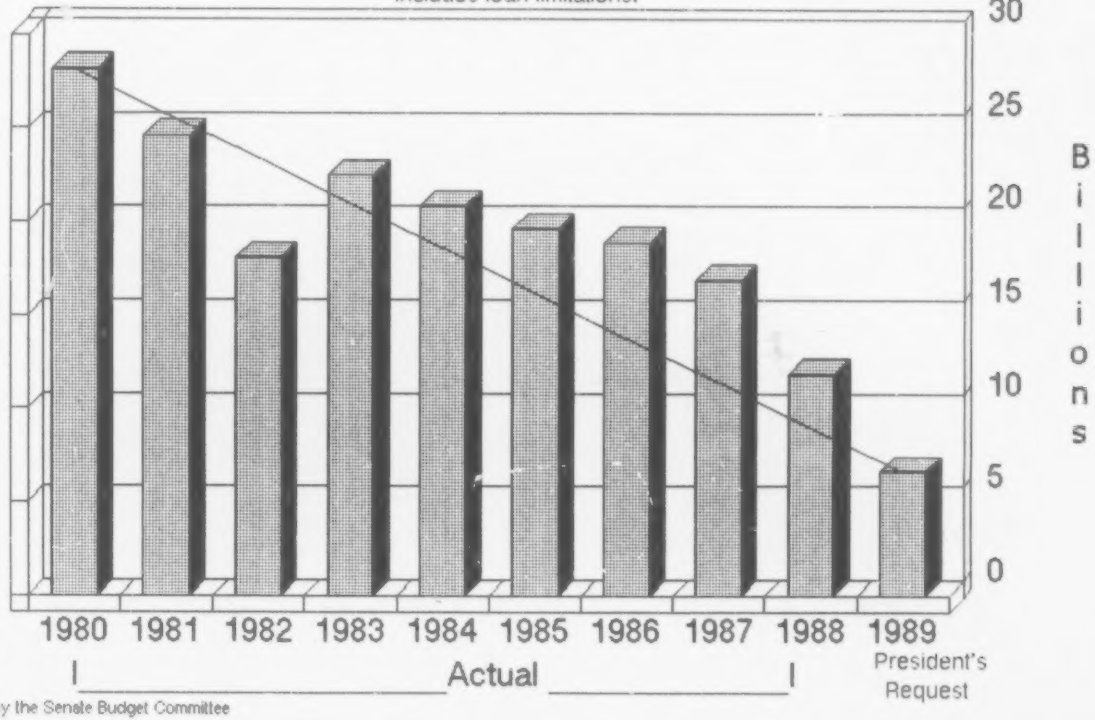
While the administration speaks of a "rural development initiative" in their 1989 budget, all we can find of this initiative is that it cuts the rural development programs by a third, rather than eliminating them. All other rural programs would face massive reductions. Now, I am not an advocate of major new spending, but I do not see how program terminations and major budget cuts are going to help rural America.

This is going to be a very tight budget year. Pressure on domestic discretionary spending will be intense. Clearly, this is not the year for a major new spending initiative, but I believe that there is a Federal role in assisting rural areas and it can be undertaken within a constrained budget. Rural utilities have demonstrated their commitment to rural development, States have undertaken all kinds of innovative programs and I look forward to your testimony today, about your thoughts about what we can do on the Federal level.

Funding Levels for Rural Programs*

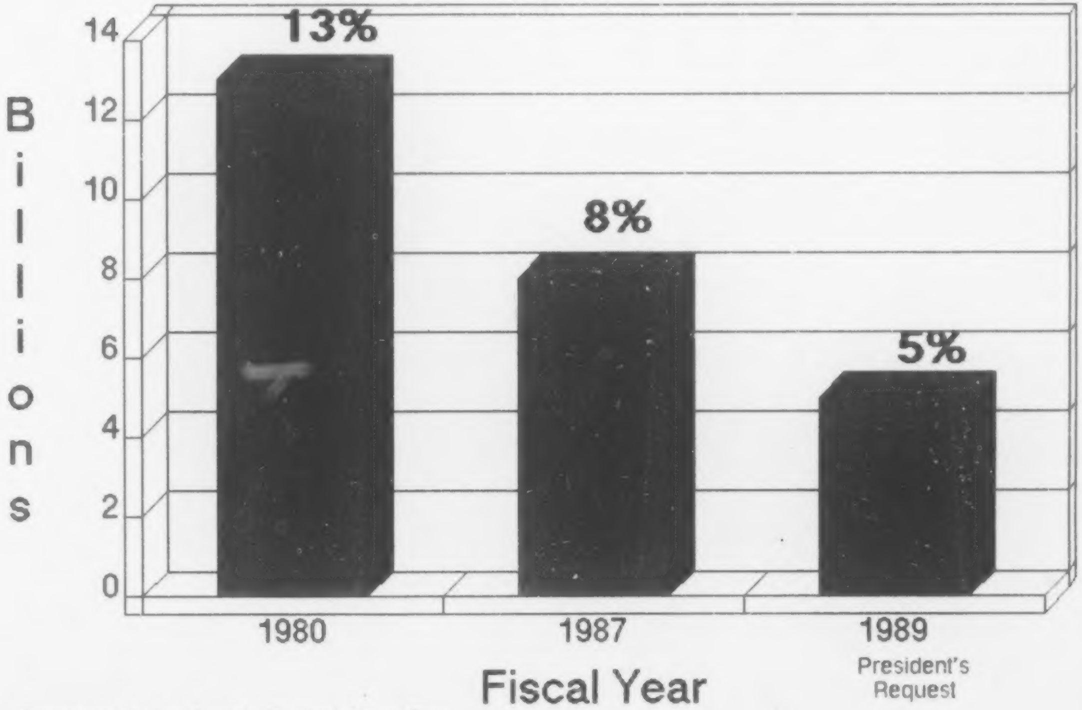
(Inflation Adjusted)

* Includes loan limitations.



Prepared by the Senate Budget Committee

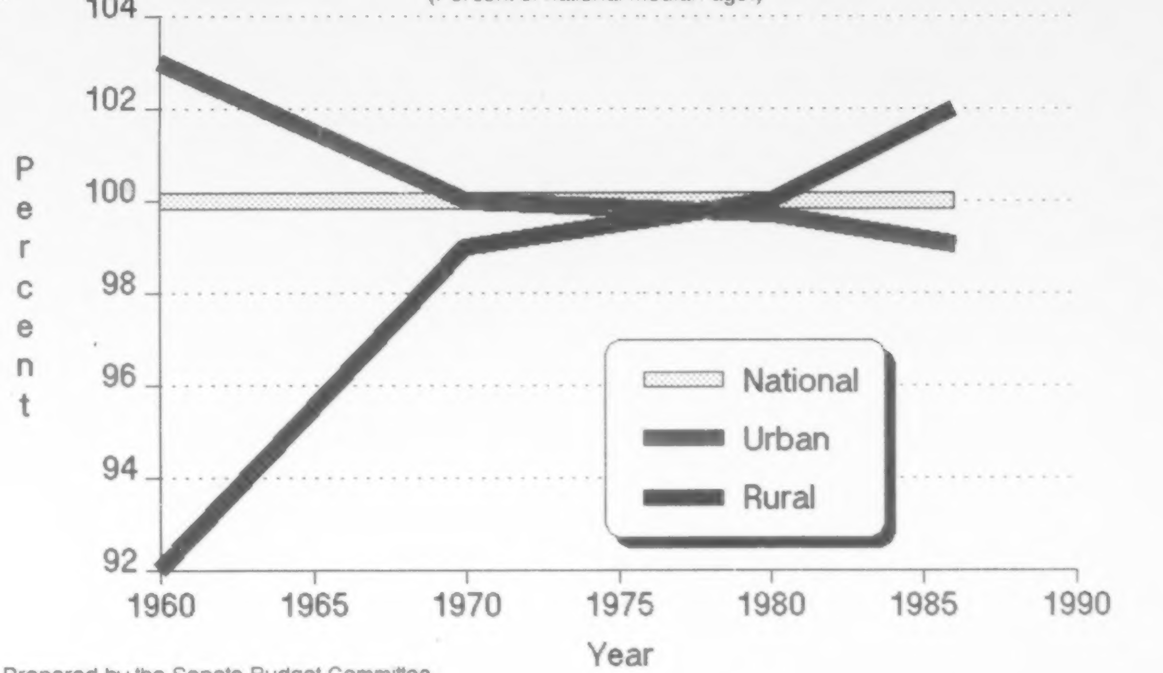
Rural Programs as a Percent of Domestic Discretionary Outlays



Prepared by the Senate Budget Committee

Rural and Urban Age Levels Compared to the National Median Age

(Percent of national median age.)



Prepared by the Senate Budget Committee

Chairman CHILES. Senator Sanford wanted to make some remarks of introduction before us today.

OPENING STATEMENT OF SENATOR SANFORD

Senator SANFORD. Mr. Chairman, I thank you for holding these hearings and I certainly know that all of us thank Senator Fowler for his initiative of bringing together people who are concerned with rural development. And I hope that all of this will enable us to do more than we have been doing in the past.

I also appreciate Bob Bergland. I am delighted to see him and look forward to hearing him, as well as Mr. Koepke and Dr. Tweeten. Eespecially, Mr. Chairman, I wanted to extend a special welcome to my leader, Lt. Gov. Bob Jordan of North Carolina. He has done so much in identifying the problems of rural North Carolina, which is, of course, rural America, and determining programs and approaches for dealing with the special needs and demands and challenges right now of rural communities, so I am pleased that we have him here to talk about this and I welcome him to this committee.

Mr. Chairman, I have got about three pages of a very learned statement about rural problems that I would like to put in the record.

Chairman CHILES. It certainly will be inserted in the record.

Senator SANFORD. We will get on with hearing the witnesses and I will not take up time talking to them.

Chairman CHILES. Thank you, sir.

[The statement of Senator Sanford follows:]

OPENING STATEMENT OF SENATOR TERRY SANFORD
BUDGET COMMITTEE HEARINGS ON RURAL ECONOMIC DEVELOPMENT
MARCH 24, 1988

Thank you, Mr. Chairman. I also want to thank Senator Fowler and my other distinguished colleagues on the committee for holding today's hearing on rural development. And I appreciate the participation of all the witnesses here.

I wish to extend a special welcome to North Carolina's Lieutenant Governor, Bob Jordan, who has helped lead the effort in providing much needed assistance to North Carolina's rural communities. I am pleased that you were able to take time from your demanding schedule to be here today to share with us your experiences in rural economic development.

I am especially interested in these hearings because I believe Congress' treatment of the rural development issue during the next two or three years will in good part determine whether our country is to remain at the fore of the global economy in the next century.

With rural incomes from farming and traditional manufacturing falling since 1981 and the service economy displacing traditional manufacturing industries, rural economies are in decline relative to the economies of their urban counterparts. This decline has continued despite the overall vibrancy of the U.S. economy in the unpredecented period of expansion we have enjoyed since 1982.

The erosion in rural economy income has been exacerbated in recent years by factors such as cutbacks in federal programs and shrinkage of the rural tax base resulting from the outmigration of rural residents and industries since 1980. This decline in the general availability of funds for rural economic development has contributed to the deterioration of our rural areas on many fronts and in pervasive ways.

Probably most disturbing is the continuing weakness in our rural educational infrastructure at a time when, more than ever before, we need to develop a flexible and literate labor pool that will not fail when called upon to meet the demands of the service and technical manufacturing economies of the 1990s and beyond. This is not to say that education is the exclusive problem of the rural areas but it is the problem that takes the longest to correct due to its long term structural nature. Left unattended, inadequate provision for the basic education of our children and our adult population will contribute to our downfall with absolute certainty.

LACK OF ADEQUATE FUNDING ALSO CONSTRICTS LOCAL GOVERNMENTS' ABILITY TO MAINTAIN AND UPGRADE PUBLIC INFRASTRUCTURE AND TO PROMOTE THE DIVERSIFICATION OF ITS BASE OF BUSINESS. WITHOUT FUNDING IT IS ALSO VIRTUALLY IMPOSSIBLE TO PROVIDE THE TECHNICAL ASSISTANCE AND ENTREPRENEURIAL AND LEADERSHIP TRAINING SO IMPORTANT IN DEVELOPING THE STRATEGIC LONG TERM PLANNING SKILLS OF LOCAL BUSINESS AND COMMUNITY LEADERS.

SOLUTIONS TO THESE FUNDING PROBLEMS EXIST. FIRST, THERE IS ALSO NO ARGUING THAT THE STATES NEED TO MAKE A MAJOR COMMITMENT TO COMPREHENSIVE RURAL DEVELOPMENT IN TERMS OF BOTH FUNDING AND ORGANIZATION. IN THESE ROLES THE STATES WILL BE PIVOTAL IN IMPLEMENTING ANY NATIONAL RURAL DEVELOPMENT EFFORT. STATES WILL ALSO DETERMINE BY THEIR ACTIONS WHETHER ANY AVAILABLE FEDERAL PROGRAMS DEVELOPED AND FUNDED TO COMPLEMENT THEIR EFFORTS ARE TO SUCCEED. IT IS LARGELY STATE INITIATIVES WHICH WILL DETERMINE WHETHER THE RESOURCES AT THEIR DISPOSAL ARE APPLIED IN AN INTEGRATED FASHION AT THE LOCAL LEVEL OR, INSTEAD, WHETHER THESE SAME RESOURCES ARE SQUANDERED IN AN UNORCHESTRATED AND WASTEFUL EFFORT. ALL THE FUNDING AVAILABLE IS OF NO USE IF SUCH FUNDS ARE NOT COORDINATED IN THE BUILDING OF A LOCAL ECONOMY.

WITHIN THIS CONTEXT, I BELIEVE THERE IS A ROLE FOR THE FEDERAL GOVERNMENT TO PLAY IN THE REVITALIZATION OF OUR RURAL AREAS AND AN IMPORTANT COMPONENT OF THIS ROLE IS THE PROVISION OF FEDERAL FUNDING FOR RURAL AREA DEVELOPMENT. I ALSO BELIEVE THERE ARE SUBSTANTIAL ARGUMENTS THAT SUPPORT A CALL FOR BOTH SHORT TERM AND LONG TERM INCREASES IN CURRENT FEDERAL FUNDING FOR RURAL DEVELOPMENT. BUT, I DO NOT WANT TO WASTE THE FEDERAL TAXPAYERS MONEY IN FUNDING EFFORTS THAT WILL ACHIEVE NO LONG TERM RETURN AND BENEFIT FOR THE ECONOMY AND ITS CONSTITUENTS.

IN CLOSING, I ONLY WISH TO POINT OUT THAT IN ORDER TO AVOID WASTING FEDERAL DOLLARS ON INEFFECTIVE RURAL DEVELOPMENT PROGRAMS THE AVAILABILITY OF FEDERAL FUNDS TO THE STATES SHOULD BE CONTINGENT UPON THE CREATION BY THE STATES OF INDIVIDUAL COMPREHENSIVE STATE RURAL DEVELOPMENT PLAN, AND THAT AN ELEMENT OF ANY SUCH PLAN REQUIRE THE CREATION, AT A SUBSTATE LEVEL, OF AN EFFECTIVE MECHANISM FOR APPLYING STATE AND FEDERAL FUNDS AT THE LOCAL LEVEL. WITHOUT SUCH AN APPROACH I FEAR WE WILL NOT BE ABLE TO RELY ON A RURAL ECONOMIC RENAISSANCE TO HELP THIS COUNTRY RETAIN A PRIVILEGED PLACE IN THE WORLD ECONOMY OF THE NEXT CENTURY.

Chairman **Chiles**. Senator Domenici will be along perhaps in a few minutes and we will get his—we will put his statement in the record right now and we will wait for his attendance.

[The statement of Senator Domenici follows:]

OPENING STATEMENT

SENATOR PETE V. DOMENICI

RURAL DEVELOPMENT HEARING

MR. CHAIRMAN, I AM PLEASED TO BE HERE THIS AFTERNOON FOR THIS DISCUSSION ON RURAL DEVELOPMENT. I WELCOME OUR DISTINGUISHED WITNESSES. I WAS PLEASED TO LEARN FROM MY STAFF THAT ONE OF THE WITNESSES, DR. TWEETEN, WAS BORN IN MY STATE.

THERE ARE SOME DIFFICULT ISSUES FACING RURAL AMERICA. THE OUTLOOK FOR EMPLOYMENT GROWTH IN THE RURAL AREAS OF OUR NATION IS NOT AS STRONG AS WE WOULD LIKE.

THE PURPOSE OF THIS HEARING, IN MY MIND, IS TO BEGIN TO DEVELOP A STRATEGY FOR ECONOMIC DEVELOPMENT AND TO DISCUSS THE FEDERAL, STATE, LOCAL AND PRIVATE ROLE IN THAT DEVELOPMENT.

FROM THIS SENATOR'S PERSPECTIVE THE MOST ESSENTIAL INGREDIENT IS COOPERATION. REAL ECONOMIC DEVELOPMENT IN THE RURAL AREAS WILL BE UNNECESSARILY HELD BACK UNLESS WE IMPROVE THE COOPERATIVE SPIRIT AMONG ALL LEVELS OF GOVERNMENT AND THE PRIVATE SECTOR. RURAL ECONOMIC DEVELOPMENT CAN NOT OCCUR IN A VACUUM. IT REQUIRES SHARED RESPONSIBILITY, SHARED COMMITMENT, AND SHARED RESOURCES.

LET ME GIVE A SPECIFIC EXAMPLE OF WHAT I MEAN WHEN I SAY COOPERATION. THE COOPERATIVE EXTENSION SERVICE IS BEGINNING A NEW PROGRAM CALLED RIC. RIC STANDS FOR RURAL INFORMATION CENTER

AND IS AVAILABLE IN EIGHT STATES, INCLUDING MY STATE OF NEW MEXICO.

RIC COMBINES THE TECHNICAL EXPERTISE OF EXTENSION'S EDUCATIONAL NETWORK WITH THE RESOURCES OF THE NATIONAL AGRICULTURAL LIBRARY.

IF A PUBLIC OFFICIAL NEEDED HELP ON HOW TO KEEP THE LOCAL COMMUNITY COMPETITIVE, OR TO DIVERSIFY THE LOCAL ECONOMY, OR A LIST OF GOVERNMENT SERVICES AVAILABLE TO THE COMMUNITY, HE OR SHE WOULD CONTACT THEIR LOCAL COUNTY AGENT. THE COUNTY EXTENSION AGENT WOULD THEN OBTAIN THE INFORMATION FROM ON-LINE DATABASES.

THIS IS A GOOD EXAMPLE OF COOPERATION THAT COULD MAKE A REAL DIFFERENCE IN RURAL AMERICA. THIS IS AN EXAMPLE OF THE COOPERATIVE SPIRIT. THE EXTENSION SERVICE IS ON THE RIGHT TRACK WITH RIC.

I AM ANXIOUS TO HEAR FROM OUR DISTINGUISHED PANELISTS. I LOOK FORWARD TO HEARING FROM THEM ON HOW THEY ARE ADDRESSING THIS CRITICAL PROBLEM. I ALSO WANT TO HEAR THEIR VIEWS ON HOW THE FEDERAL GOVERNMENT CAN FACILITATE THEIR EFFORTS TO FURTHER RURAL AMERICA'S ECONOMIC DEVELOPMENT.

Chairman CHILES. Mr. Secretary, we will start with you. Mr. Bergland.

STATEMENT OF ROBERT BERGLAND, EXECUTIVE VICE PRESIDENT, NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. BERGLAND. Thank you very much, Mr. Chairman and distinguished members of the committee.

We have a rather lengthy statement with attachments I would like to submit for the record.

Chairman CHILES. We will be happy to put that in the record.[1]

Mr. BERGLAND. Thank you, sir. I would like to just briefly summarize the purpose of the statement. By way of introduction, I represent the National Rural Electric Cooperative Association.

We are a Washington-based group, representing 970 locally owned rural electric cooperatives in 46 States, serving about 10 million rural families, persons who generally live beyond the reach of investor-owned power companies because there is no profit to be made as these families live too far apart.

The rural electric cooperatives are vitally interested in development. We have been in the business for 55 years. The passage of the REA in 1936 and the bringing of electric lights to 8 million families who lived in candle light and poverty and despair was in itself a major developmental step, and so the improvement of communities and rural places is not a new purpose or mission with our member systems.

As local utilities, we have assets, poles and lines fixed in our communities. As community owned and controlled organizations, those associations' commitment resides locally, as well. The rural electric cooperatives have neither the ability nor the desire to shift their operations to more densely populated or profitable areas. We are there to stay. Rural communities constitute a tremendous national treasure. Given a choice, people prefer to live in the open countryside, in small communities.

Many of the values which have made our country great and continue to sustain our national spirit—family closeness, honesty, commitment, and solid work ethics—are strongest in rural communities.

I had a person challenge me the other day on this business of whether persons prefer to live in rural places, and I said I think so because the people who can afford to live wherever they choose tend to go to the country, and that is true in this city as well. The really wealthy people in this community do not live here, they are outside the city 50 miles because of the space.

Chairman CHILES. Well, I happen to think there is some validity to that. I just bought a little farm and I am looking forward to going to the country in a little bit. [Laughter.]

Mr. BERGLAND. Good for you, Mr. Chairman. You have good sense. [Laughter.]

Unfortunately, many of these communities have experienced rapid decline during the past years, and the record is full of work of experts who have documented this decline and I am not going to go into it this afternoon.

---

[1] See p. 177.

The rural electric cooperatives are, of course, a part of rural America and have not been sheltered from these economic realities. We are feeling the pinch. The economy in Louisiana and Texas and Oklahoma, for example, is a wreck. That is primarily because of the oil and gas economy, and people are losing jobs, businesses are closing, and what happens typically is that the head of the household loses a job and will leave, the family stays behind until the unemployment benefits are gone. Maybe the family will move and maybe he will abandon them. We have investments in those communities, we cannot pull up and leave. We are there for the long pull, but we have seen the impact of this economic recession, in some places depression, come home to roost in about 26 States.

The record shows that of the 930 distribution cooperatives in the country, 3 years ago 136 lost consumers, 2 years ago 185, and last year 255 local distribution cooperatives reporting declining population. This is occurring in 26 States, primarily from North Dakota to Louisiana and from Ohio to Nevada. It is driven largely by the oil and gas economy, the mining business, and agriculture in some regions, or a combination of all of the above.

As local community-based organizations, we have always been involved in development projects, in many cases in coalitions with other rural groups, in addition to the provision of electric service.

According to data provided by the REA, an agency of the U.S. Department of Agriculture, the rural electric and telephone systems have provided a wide range of assistance to community, commercial and industrial projects which have produced more than a million jobs in 25 years. Today, the problems facing many rural communities have spurred the electric cooperatives to increase their initiatives and activities in community and economic development.

During 1986 alone, these systems provided assistance which included arranging financing (205 systems), securing or providing development assistance in (442 systems), plant design or other technical assistance in 450 systems, and so on and on and on.

Some of our recent initiatives in promoting rural development include the following: An increasing number of rural electric systems are hiring economic development specialists, professionals who work both to improve the community infrastructure and to assist rural business and industry. This February, a core group of these professionals employed by rural electric cooperatives met and formed a new national association to assist themselves and their colleagues in networking, idea-sharing and expanding their effectiveness and influence as economic developers.

We have found, Mr. Chairman, that the growth of jobs in rural places is most closely tied to small business. We think there is a major change that is taking place in the work place across the United States. The days of the large-scale assembly line manufacturing processes are probably gone. The legacy of Henry Ford is in serious trouble, and the new jobs which are arising are mostly in small-scale, high-tech industries, manufacturing or providing a service, but they lend themselves to locating in rural places and we are doing everything we can to assist the local industry to expand what has been proven to work, and to help small business deal with some of the very serious problems confronting them. Those problems are many and varied and we do not have time to go into them today.

We have developed a Rural Community Economic Development Manual to assist our cooperatives. This is kind of a how-to book. It shows them how to start taking an organized interest in community development. If they have not already been in it, we encourage them to do so, and it leads them one step at a time as to how a local cooperative utility can make a major difference in the creation of more jobs in a rural place.

Last year, we launched a new National Rural Health Network, a nonprofit subsidiary to promote health screening and health education initially through health fairs. We hired two professionals—one of these is a registered nurse—to provide training for rural electric cooperatives to organize and conduct health fairs, working in conjunction with community health organizations and hospitals, and we are shocked to learn the large number of rural residents that do not get a physical examination until they are falling down sick. We find lots of walking strokes, people who do not even know they had a problem until they go into a health fair and get this rather light examination provided at little or no cost to them as a service to that community.

Additional projects include a joint project with the Carter Center at Emory University in Atlanta, GA, to develop a health risk appraisal specifically geared to rural areas. Also, in conjunction with one of our auxiliary organizations, the National Rural Electric Women's Group, our National Rural Health Network has launched a National Osteoporosis Prevention and Breast Cancer Detection and Prevention Program. These are things they do as local volunteers to help local rural residents who are far away from a hospital, who have no way of getting easy access to this sort of care. Many times they are low income, do not have insurance, and we can provide them with some of these basic health services and help them avoid health calamities later on.

We have created a joint venture to deal with the television phenomena. There are about 15 million families that live beyond the reach of cable television in the United States. They will never get cable TV because it takes at least 20 consumers in a mile to make cable pay.

About 5 years ago, satellites were launched and people started buying backyard satellite dishes and plugging into "the bird" free of cost. The cable people objected to this development because it meant that folks could buy a backyard dish and go right to the satellite and avoid paying subscription fees which were being paid by the cable operators, and so they pressured the programmers to scramble the signals and that scrambling is now under way.

We have formed a company, a nonprofit service organization with two of our sister associations and we are now contracting with programmers to bring a package of television signals to rural residents so that they can unscramble this signal. They will pay us a fee that we remit to the programmers. Everything is negotiated in the private marketplace. We are having some problems because the cable do not want us to do this, but we are continuing and we are getting some political help from you and others and we appreciate that.

This program was just launched last October. We have about 150 cooperatives now in it, but it is becoming very popular and eventually we will use television for not only the receiving of signals for entertainment purposes, but we are working with about 8 universities to bring teaching to rural schools where they cannot afford to hire a teacher for some of the sciences which are required in a modern competitive workplace. Rural schools oftentimes cannot afford a teacher to bring some of the computer technologies, for example, so we are working through universities to bring this teaching skill to these rural school, via satellite, and rural electric cooperatives are providing the wherewithal to allow this to happen.

As we understand it, in any modern competitive workplace we have to have education that is commensurate with the local development, and oftentimes these rural schools do not have the tax base to hire the teaching staff, so we think the television phenomena can help bridge that gap. We have to work through the State departments of education and the universities to make this happen, but it seems to work. The biggest impediment is the State universities and State departments of education, they do not know exactly how to teach via television. It is a new phenomena, it is like campaigning by television. You cannot see, smell or touch that constituency, and it is a certain new phenomena that has to be mastered. These are just a few of our recent initiatives. Mr. Chairman, we brought a copy of a new document we have just put out, called "Strengthening Rural America." It includes 25 case histories of local projects in which rural electric systems have worked with others to provide development assistance. This is an idea-sharing vehicle we would leave for the committee to view. We are sending it out to all of our member systems as a suggested guideline of things that they may wish to undertake.

Finally, Mr. Chairman, I would like to deal for a moment on the Federal role in rural development, and we think there is one. We think there are some creative ways that we can leverage the Federal involvement and stimulate more private investment.

We agree with your assessment that the budget is tight, there is really no room for any massive new starts. Because of the budget constraints it is impossible to launch some kind of a massive new program. But we think there are ways that we can leverage what we now have to bring the private sector into play locally, but they need outside help, and so we are recommending that legislation target and work with existing business organizations in communities in order to leverage this support.

I am not going to go into the many ideas that this thing could engender, but we really do believe that there needs to be more careful targeting of the Federal support to grant assistance to the communities that have first demonstrated a willingness to do something about the economic development problem in their community, and can serve them in ways that are beyond their own capacity.

Earlier this year, 75 members of the House and 41 Senators sent a letter to the Secretary of Agriculture, Mr. Lyng, urging that he establish a 10-person economic unit within REA, that agency at

USDA, to provide hands-on assistance to specific projects, such as assisting rural entrepreneurs through incubators—we are into a few of these and they work—other programs to assist existing industry or to expand or remain strong and to develop infrastructures such as water and waste treatment and other needed facilities.

The concept behind this recommendation is that REA could provide this small technical assistance on a circuit rider-type of program. In this way, the agency could more effectively provide hands-on assistance to encourage local leadership to increase their own resource commitments to rural development, in other words leveraging Federal support in tying in with local leadership and in a smaller way, local financing.

NRECA believes that REA should be authorized to make financing available to REA borrowers for both the infrastructure, and business and industry development. The form of such assistance could be guarantees, loans or grants, and the ability to assist in the creation of private revolving loan funds. It would be similar to the systems available from other agencies.

Last year, the Congress very wisely authorized two amendments to the law, one of which would allow cooperatives to use up to 15 percent of their own money for development purposes. Mr. Chairman, the REA is now in the process of putting that amendment to work and we think it is going to be of tremendous help to us.

Mr. Chairman, this summarizes my statement and I would be delighted to answer questions which may be put at the conclusion of this testimony.

Thank you.

Chairman CHILES. Thank you, Mr. Secretary.

[The prepared statement of Mr. Bergland follows:]

National Rural Electric Cooperative Association

1800 Massachusetts Avenue, N.W.
Washington, D.C. 20036
Telephone: 202/857-9500

Statement
of
Bob Bergland
Executive Vice President
National Rural Electric Cooperative Association
before the
Committee on the Budget
United States Senate
on
The Federal Role in Rural Economic Development

March 24, 1988

Mr. Chairman and distinguished members of the Committee:

It is my pleasure to appear before you today to discuss the important issues relating to the condition of our rural economy, the actions which must be taken to restore vitality to the countryside, and an appropriate role for the federal government in working in a partnership with others to promote rural economic development.

NRECA is the national service organization for the 1000 rural electric systems which provide power to 25 million people in 2600 counties in 46 states. Each rural electric cooperative is owned by its consumers who elect a board of directors to set policy and guide the cooperative in its service to the community. By their very nature, rural electric systems have both deep roots and a vested interest in ensuring that their communities grow and prosper. As local utility systems, their assets -- poles, lines, and so forth -- are fixed in their communities; as community-owned and controlled organizations, their commitment resides there as well. Rural electric cooperatives have neither the ability nor the desire to shift their operations to more high growth areas.

We commend the Committee and appreciate the active, concerned leadership role you are taking on this important issue of rural economic development. We offer our full support and assistance.

Today we find our nation undergoing a basic transformation. For some time the United States has been moving from an industrial and manufacturing economy to one based on services. In this new structure, less value is given to repetitive and low skill jobs, and more value is given to creativity and so-called "knowledge" workers -- the key players in those areas in which most analysts think that the United States has a long-term competitive advantage. Along with this transition, it is also clear that we will continue to remain part of a world economy in which our nation can no longer expect to be the single dominant force as we once were.

The world economy will be one in which all nations -- including the United States -- will affect and be affected by the actions of other nations. This is a world in which we can compete and will succeed. But we cannot afford the luxuries of laziness, poor planning or the lack of strategic thinking. We must continue to place increasing emphasis on education, "tooling up," and prudent capital investments.

Rural communities must not be left behind as our economy continues its transition and growth. Rural communities constitute a tremendous national treasure. Given a choice, people prefer to live in open countryside and small communities. Many of the values which have made our country great and continue to sustain our national spirit -- family closeness, honesty, commitment and a solid work ethic -- are strongest in rural communities.

Unfortunately, many of these communities have experienced rapid declines during the last several years. The public record is full of the work of experts who have documented this decline. The data which have been compiled show that rural areas are experiencing: (1) a net outmigration of people, (2) job growth at less than a third the urban rate, (3) high levels of unemployment and under-employment, (4) higher poverty rates, lower incomes, and a growing gap when compared with urban areas in both of these measures, and (5) a heavy loss of college-educated people and significantly lower average levels of education than urban areas.

Rural electric cooperatives are part of rural America and they have in no way been sheltered from these economic realities. In recent years an increasing number of rural electric cooperatives have lost consumers as a result of outmigration. Of the 930 local rural electric distribution cooperatives, 136 lost consumers during 1983, 185 during 1984, 217 during 1985, and 255 during 1986. This outmigration occurred in twenty eight (28) states, all contiguous -- from North Dakota to Louisiana and from Ohio to Nevada.

As local community-based organizations, rural electric systems have always been involved in development projects -- in many cases in coalitions with other rural groups -- in addition to the provision of electric service. According to data provided by the Rural Electrification Administration (REA), rural electric and telephone systems have provided a wide range of assistance to community, commercial, and industrial projects which have produced more than one million jobs over the past 25 years. Today, the problems facing many rural communities have spurred electric cooperatives to increase their initiatives and activities in community and economic development. During 1986 alone these systems provided assistance which included arranging financing (205 systems), securing or providing development assistance (442 systems), plant design or other technical assistance (450 systems), providing office and meeting space, typing, clerical or other such assistance (312 systems), and contributing time, money, equipment and materials (316 systems).

In many areas of the country rural electric cooperatives have taken the leadership in working with others in a wide range of projects, such as water and waste treatment systems, fire protection systems, attracting new industries to rural communities, and assisting existing industries to expand. Recent initiatives in promoting rural economic development include the following:

1. An increasing number of rural electric systems are hiring economic development professionals who work both to improve community infrastucture and to assist rural business and industry. This February, a core group of the economic development professionals employed by rural electric cooperatives formed a new professional association to assist themselves and their colleagues in "networking," idea sharing and expanding their effectiveness and influence as economic developers.

2. NRECA has issued a Rural Community and Economic Development Manual to all rural electric cooperatives. This "how to" handbook is in loose-leaf form and will be continually updated and supplemented.

3. Last year, NRECA launched the National Rural Health Network, a nonprofit subsidiary, to promote health screening and health education, initially through health fairs. NRECA hired two professionals, one of whom is a Registered Nurse, to provide training for rural electric cooperatives to organize and conduct health fairs, working in conjunction with community health organizations and hospitals. Additional projects undertaken by the Network include a joint project with the Carter Center of Emory University to develop a health risk appraisal specifically geared to rural areas and, in conjunction with the National Rural Electric Women's Association, to launch national osteoporosis prevention and breast cancer detection and prevention programs. Through these efforts, the Network is attempting to meet unmet needs in medically underserved rural areas through the network of rural electric systems.

4. NRECA has jointly created (with the National Rural Utilities Cooperative Finance Corporation) an organization--the National Rural Telecommunications Cooperative (NRTC)--to promote satellite technology in rural areas. NRTC has negotiated a high quality package of television programs which it is now making available at the local co-op level through the use of descrambling devices to rural families. These families, because of the remoteness of their residences, are outside of the reach of cable TV systems and also often do not receive adequate "off-the-air" reception. Additionally, NRTC is actively pursuing bi-directional industrial telecommunications activities.

These are just a few of the many recent initiatives of NRECA and its member systems in rural development efforts. However, let me emphasize that at the local level, rural electric cooperatives are deeply involved in development efforts ranging from providing leadership and acting as catalysts for growth to building and operating water systems, to starting fire protection systems, to providing creative financing and other assistance to local businesses.

Mr. Chairman, I have brought with me a publication which NRECA has just completed. It is entitled Strengthening Rural America: America's Rural Electric Systems at Work, and includes some 25 case studies of local projects in which rural electric systems have worked with others in their communities to provide development assistance. Our purpose in developing this publication was to use it as an "idea sharing" vehicle among rural electric systems. I hope that the Committee will also find it to be of some value.

As a result of their long involvement in community and economic development activities, rural electric cooperatives have learned several important lessons:

- They've found that generally the most beneficial and long-lasting results are achieved by starting out small. It is often more realistic to undertake a project that results in a few new jobs rather than expend energy and resources pursuing a large employer. Small successes can snowball into more small successes which build local vitality.

- They've learned that the success of any rural development effort depends on the leadership involvement and commitment of local people and organizations. Without grassroots support, no government program or other effort, no matter how well-intentioned, is likely to succeed.

- They've found that a "can do" attitude is essential to rural development. Those who are easily overwhelmed and have a pessimistic outlook are bound to reap more of the same. Those who succeed are people who can take that first important step and continue to move forward even after repeated failure. Development is a slow process which requires patience, perseverance and an understanding that positive results normally take time.

- They've learned that local development problems cannot be solved by large federal spending programs which lack local support. At the same time, they are also convinced that there is an intelligent role for the federal government to play in promoting rural area development. They have seen the enormous success of rural electrification as an effective partnership between a strong federal agency -- the REA -- and local, community-based organizations. They know from experience that this model works -- despite the fact that some said that the electrification of rural America was impossible and impractical -- and they feel that a similar model of partnership between the federal government and local community-based organizations can work just as effectively in revitalizing rural America.

Let me address the federal government's role in rural development and how the events of the recent past are likely to influence the direction of future policy decisions. In many ways, the last decade has been a time of extremes. We have seen economic vitality in certain areas of our nation, particularly the urban portions of the east and west coasts, while at the same time much of our heartland and many rural communities have experienced economic problems on a scale which has been compared to the Great Depression. From a public policy perspective we have also seen great shifts.

Federal investments in certain areas have been increased dramatically -- in the case of defense by more than 50 percent -- while drastic cuts have been made in other areas -- like rural development programs, which have been reduced by approximately 75 percent, despite the economic disaster facing many rural communities. In my judgment, these priorities will be re-examined in the coming years, no matter who the next president is, and some of the programs which were cut will be restored based on a careful analysis of their value to the future of our nation. This re-examination is a natural and healthy part of our system of government. But the result of this process will not be a movement toward large new spending programs. The present state of the federal budget does not permit such an approach, nor would it be a wise course.

There is a need to think more creatively about the ways in which the federal government can most effectively contribute to rural development. Opportunities should be sought to use federal resources in ways which leverage their effectiveness. One major way of doing this is to use existing organizations and networks in rural America. An example of this is the network of rural electric systems which cover most of the land mass of the United States, and provide service to 25 million people in 2600 counties and 46 states. NRECA supports using this existing network of rural electric cooperatives as a logical vehicle for rural economic development. Rural electric cooperatives have a history of working with others in their communities, and have proven themselves to be effective partners in development efforts. By using this approach, federal resources can be greatly leveraged. Let me take two examples of how this could be done -- technical assistance and financing.

o Technical Assistance: Early this year, 75 members of the U.S. House of Representatives and 41 members of the U.S. Senate sent a letter to Agriculture Secretary Richard Lyng urging that he establish a ten-person economic development unit within REA to provide "hands-on" assistance in specific economic development projects, such as assisting rural entrepreneurs through incubators, other programs to assist existing industries to expand or remain strong, and developing infrastucture projects such as water and waste treatment and other needed facilities. The concept behind this recommendation of more than 100 Members of Congress was that if REA were to provide this small technical assistance, "circuit-rider" type of program, the agency could more effectively provide the element of leadership and "hands-on" assistance needed to encourage local rural electric and telephone systems to increase their own resource commitments to rural economic development, and to become more effective in such efforts.

o Financing Availability: NRECA believes that REA should be authorized to make financing available to REA borrowers for infrastucture and business and industry development. The forms of such assistance -- guarantees, loans, grants, and the ability to assist in the creation of private revolving loan funds -- should be similar to the assistance available from other development agencies, such as the Farmers Home Administration. Additionally, REA borrowers should be encouraged to put together financial packages which leverage federal funds with private capital, including use of funds of the electric and telephone systems. This new authority would complement the two small provisions of last year's Reconciliation Act which increased the amount of direct investments in economic development projects which may be made by REA borrowers.

The first of these was a provision that permits rural electric systems to use their own funds to make investments in rural development projects, provided that the total of such investments do not exceed 15 percent of a system's investment in its electric facilities. The previous limit was 3 percent. The second provision of the Reconciliation Act was a "Cushion of Credit" program in which REA borrowers are encouraged to make payments ahead of schedule. Such payments generate 5 percent interest to the REA borrower, and the difference between the 5 percent rate and the cost of money to the REA revolving fund is placed in a separate subaccount to be used for grants and zero interest loans for economic development purposes.

We believe that by taking the approach outlined here (1) the amount of assistance provided by federal rural development programs would be greatly magnified, and (2) projects assisted would be more likely to be successful because of the local commitment brought by the involvement of the local rural electric and telephone systems.

Mr. Chairman, I have used the example of rural electric cooperatives to illustrate the underlying principles which should be considered as we reevaluate the Federal Government's role in rural economic development. Those principles are:

1. With limited resources and continued deficit problems, opportunities should be sought to use federal resources carefully and in ways which leverage their effectiveness. Use of existing networks and the requirement that private capital be used along with federal funds should be considered.

2. Successful efforts must have a strong element of local commitment and initiative. Merely spending more money will not revitalize rural America.

3. Federal agencies have tremendous influence and resources and can accomplish a great deal by providing leadership, technical assistance, and support to local organizations.

Proposals based on creative thinking, including new uses for existing networks, and the use of private funds to leverage federal dollars should be the first option to be considered in any effort to change the federal role in rural development. These approaches offer the best "paybacks," and are the most feasible, given our present budget problems.

For the longer term, we believe that it would be wise to begin a major study, perhaps conducted by a "blue ribbon" commission, of the way in which the federal government delivers rural development programs. Currently this occurs through a large number of different structures, delivery mechanisms, programs, agencies and departments -- including several of the agencies of the U.S. Dept. of Agriculture, the Economic Development Administration, the Department of Health and Human Services, the Department of Housing and Urban Development, the Small Business Administration, the Tennessee Valley Authority, and several others. All too often, it seems that there is very little coordination or even communication among these agencies, either in Washington or in the field.

We propose that a major study be undertaken of these activities and that the federal role be examined relative to the activities of state, local, and private organizations. The "bottom line" of this study would be to determine whether major organizational changes (mergers, consolidations, streamlining, etc.) would improve the effectiveness or reduce the costs of federal rural development efforts.

Beyond the matter of improving the delivery of federal programs through possible reorganizations, and launching creative new efforts at relatively modest cost, I believe that the fundamental, underlying questions with respect to the federal role in rural development which must be addressed over the long term are:

o Whether we, as a nation, are willing to permit large numbers of our rural communities to "dry up" and increasingly, become "left behind" in the economic transition and growth of our nation.

o Whether (and how much) creativity and intelligence we are willing to devote to revitalizing our rural economy, and to what extent are we willing to employ federal resources, or restore past levels of rural development funding, perhaps in more effective ways, if that strategy becomes necessary and wise.

Mr. Chairman and members of the Committee, I appreciate the opportunity to appear before you today. Again let me emphasize my appreciation and support for the leadership you have shown in addressing this important matter.

Chairman CHILES. Governor?

STATEMENT OF LT. GOV. BOB JORDAN, STATE OF NORTH CAROLINA

Governor JORDAN. Mr. Chairman and members of the Budget Committee, I appreciate the opportunity to have a chance to testify here today. I would say there are some clouds on the horizon and one of the clouds that bothers me the most is that the distinguished chairman of this committee will not be here next year to champion these causes that we are going to put before the committee today.

If it please the Chair, I have a long statement that will be submitted for the record and I would like to make comments summarizing the statement. I would like to file the longer statement for the record.

Chairman CHILES. Your statement in full will be included in the record.[1]

Mr. Boschwitz is saying he is having a hard time understanding you because you do not speak with an accent. [Laughter.]

Senator BOSCHWITZ. I am going to ask the Lieutenant Governor about that very interesting high school you have established in North Carolina for gifted students, which is quite aside from this. Is that something that——

Governor JORDAN. Senator Sanford can speak to that, too, but we are very—you are talking about the North Carolina School for Math and Science?

Senator BOSCHWITZ. I will ask you in a question later.

Governor JORDAN. OK. Good.

During my testimony today, I would like to focus on three topics: First, what is the problem of rural economic development; secondly, how have the States, in particular my home State of North Carolina, addressed it; and, thirdly, what is the appropriate Federal role in this area.

First, the problem: Many of our States, especially in the South, are facing the dilemma of two economies. You have heard the reports that talk about the shadows in the Sun Belt. We call it the two North Carolinas, one that is thriving and another that is stagnant. The long-term economic trends show us that left to current programs, policies and market forces, this dilemma will remain. This dilemma and these problems are the product of permanent structural changes in our economy.

Third world friends and competitors have become permanent fierce competitors for global agricultural markets. Employment in the South in traditional industries has declined as some companies have gone overseas seeking cheap land and labor, and others have moved to the cities seeking good schools, good roads and good airports. Although our problems are an unfortunate natural consequence of a dynamic economy, they have been exacerbated by the unintended consequences of Federal policies. The high interest rates, followed by the high dollar and the consequently dwindling exports were particularly debilitating to the southern rural economy.

---

[1] See p. 188.

Deregulation of transportation has meant that it is more expensive to move goods and people in and out of rural areas by truck and plane. Buses and trains do not stop in Mt. Gilead any more, and rural roads and bridges are in disrepair.

Banking deregulation, while generally positive has tended to place loanable funds in the hands of those who have little understanding of the credit needs of non-metropolitan producers. There is a lack of capital in the forms that we need it in rural areas, a lack of assistance in packaging dollars to ideas and a lack of means for nurturing those new businesses that are created.

In the face of structural changes and the economy and policy initiatives that severely wounded the southern economy, what has the Federal Government done? It has simultaneously dismantled or severely cut the series of Federal programs that had been designed to give financial, informational and psychological support to our isolated rural areas.

From special programs such as the Appalachian Regional Commission or the Economic Development Administration to the more general support of Federal revenue sharing, we were stripped of our tools for responding to economic crises just at the time we were afflicted by the worst economic crisis since the Great Depression. That is the legacy of the new federalism for the rural South.

In response to the Federal pull-back, many States have addressed the rural economic development problem. In North Carolina, we have created a Commission on Jobs and Economic Growth that had the specific purpose of paying special attention to our decaying rural economies. That commission spurred the Legislature to appropriate money in 1985 and again in 1987 to build water and sewer systems in counties that cannot afford them, and to give tax benefits to employers who create jobs in our most distressed counties.

In response to another commission idea, the legislature created a Rural Economic Development Center, a nonprofit corporation chaired by Bill Friday, former president of the University of North Carolina system, and it gives new hope and a new voice to North Carolina's rural people. The center has a $4 million appropriation and a task of finding ways to revive rural economies.

It currently is sponsoring an exhaustive analysis of rural capital markets and solutions for filling those gaps. The center is also developing a comprehensive regional planning process to provide marketing assistance to cooperatives.

Our State is also spending unparalleled amounts of money on education, particularly in rural North Carolina. This includes a $3.2 billion school construction package and an $800 million basic education plan which will expand curriculum and reduce the class size. The plan will also be especially helpful to rural counties, since many of the funds, particularly in the School Facility Act, not only provides funds on an ADM basis but also provides critical need funds in addition to the ADM appropriation for those counties in most need.

We are also beginning to recognize, as Secretary Bergland just mentioned, that most future job creation will come from within in our State. Eighty percent of the jobs created in North Carolina come from the creation of small businesses or the expansion of existing businesses. We are not going to find as many industries as we go out continually on the buffalo hunt.

This reality led me recently to suggest that reorganization of our economic development agencies into one public-private entity to focus our efforts. Only by creating things such as this, will we be successful in attacking our rural development problems.

Finally, Mr. Chairman, what is the appropriate role for the Federal Government in rural economic development? The new federalism requires a Federal partner and we need a coordinated approach between the two levels of government. Many of the States are taking responsibility for their own economic salvation, but we are increasingly carrying the burden alone. The problems that I have described are not just the problems of isolated areas, but they are national problems. We know from history of a generation ago, when the rural South exported its neglected, its unskilled, its displaced to the cities of the North where too many of them and their children reside today.

After a decade of rural renaissance in the 1970's, when hundreds of thousands of our expatriates returned, the rural South is exporting its poor and its uneducated once more. This time, however, they are going to the cities of the South, which are no more ready to absorb them into an economy requiring ever-higher skills than were the New York's and the Chicago's 30 years ago.

If our local governments, our State governments and our national government do not get together on a coordinated policy of fixing the problems in the rural areas, those problems will migrate to our urban areas where they will have economic and social ramifications for all of our region and all of our country.

Fifty years ago, Franklin Roosevelt called the South the Nation's number one problem. It is critical that the Congress today recognize that the rural South is still the Nation's number one domestic problem.

Formation of Senator Fowler's congressional Rural Development Task Force and the Rural Economy Act of 1987 proposed by Senators Leahy and Sanford and others are encouraging. With the new administration to come into office next year, this is the ideal time for urging new ideas for solving old problems. As you undertake this important task, I leave you with three thoughts:

First, investments in human capital are critical. North Carolina made these investments a generation ago under the leadership of Luther Hodges and the distinguished Senator Terry Sanford. It is no accident that we are reaping the benefits from the Research Triangle Park, the North Carolina School of Math and Science, from the 58-campus community college system, from our State university and private university system.

Thus, I challenge you to think boldly and creatively about the investments that we need to make together today for the rural America that we want for our children in the 21st century.

Second, I ask that you think beyond the simple reconstruction of the Federal programs that were designed to help the manufacturing sector of our economy. We must ask new questions about the Federal role, including how can we use the new technologies to build rural economies, how can we use telecommunications to move the best teaching available into our poorest rural school districts—an area we particularly need to focus on in North Carolina—how do we address the national blight of illiteracy, and what kinds of Federal initiatives would encourage private capital sources to invest in rural business?

Finally, Congress should be wary of new, well-intended macroeconomic policies and programs that have the effect of devastating our fragile rural southern economy. We need your leadership in eliminating the fragmentation in rural economic programs and in sufficiently decentralizing any new efforts to allow for local management and innovation.

The problem of rural economic development is not one that will be solved quickly or with one single approach. Its origins date back decades. But with innovative approaches at the Federal, State and local levels—and cooperation among these levels—the current situation can be improved. That is our challenge and, more importantly, it is our opportunity.

Thank you, Mr. Chairman. I will be glad at the appropriate time to answer any questions.

Chairman CHILES. Thank you, Governor.

[The prepared statement of Governor Jordan follows:]

STATEMENT BY LT. GOVERNOR BOB JORDAN
BEFORE THE SENATE BUDGET COMMITTEE
WASHINGTON, D.C.
MARCH 24, 1988

"RURAL ECONOMIC DEVELOPMENT: MOVING TOWARD A COORDINATED APPROACH"

Mr. Chairman, Members of the Budget Committee,

Thank you for this opportunity to appear before your Committee today to discuss the important topic of rural economic development. I commend you for examining this problem and for seeking new ways to address it.

During my testimony today, I want to focus on three topics:

I. What is the problem of rural economic development?
II. How have the states, in particular my home state of North Carolina, addressed it? and
III. What is the appropriate federal role in this area?

I. THE PROBLEM

First, the problem.

Many of our States, especially in the South, are facing the dilemma of two economies: one that is thriving and the other that is stagnant. The long-term economic trends show us that, left to current programs, policies, and market forces, the dilemma will remain.

We will have prosperous cities in the Sunbelt fast closing the gap that has traditionally separated them from the rest of America in measures of prosperity. And we will have poor, lagging rural areas where unemployment, poverty, illiteracy and economic stagnation will persist.

This dilemma and these problems are the product of permanent structural changes in our economy. Third World friends have become permanent, fierce competitors for global agricultural markets. Employment in the South's traditional industries has declined as some companies have gone overseas seeking cheap land and labor and others have moved to our cities seeking good schools, roads and aiports.

But although our problems are an unfortunate natural consequence of a dynamic economy, they have been exacerbated by the unintended consequences of federal policy:

**The high interest rates, followed by the high dollar and the consequent dwindling exports, were particularly debilitating to the Southern rural economy.

**Deregulation of transportation has meant that it is more expensive to move goods and people in and out of rural areas by truck and plane. Buses and trains do not stop at small towns anymore, and rural roads and briges are in disrepair.

**Banking deregulation, while generally positive, has tended to place loanable funds in the hands of those who have little understanding of the credit needs of non-metropolitan producers. There is a lack of capital in the forms that we need it in rural areas, a lack of assistance in packaging dollars to ideas and a lack of means for nurturing those new businesses that are created.

In the face of structural changes in the economy and policy initiatives that severely wounded the Southern economy, what has the federal government done? It has simultaneously dismantled or severely cut the series of federal programs that had been designed to give financial, informational and psychological support to our isolated rural areas.

From special programs such as the Appalachian Regional Commisison or the Economic Development Administration to the more general support of federal revenue sharing, we were stripped of our tools for responding to economic crises just at the time we were afflicted by the worst economic crisis since the Great Depression. That is the legacy of the new federalism for the rural South.

To illustrate the problem, I cite the hypothetical case of John and Jane . This couple lives in the rural South with their three children.

A few years ago, they were making ends with Jane working a shift in the local textile mill and John tending 10 acres of flue-cured tobacco. Many of their neighbors did the same.

The men "traded out" farm work between them. Farm income was OK, but not great. By adding it to Jane's mill pay, however, they got by.

Since they were making their monthly payments on the car and mobile home, they did not need to get their high school diploma through the local community college. Their kids stayed with John's mom, who lived down the road.

But when the mill automated, Jane lost her job. Then the tobacco allotment was cut, the price support was reduced and growers had to pay a fee to finance the program. The cost of fertilizer, herbicides, farm machinery and interest on loans inched up.

From getting by--to going over the financial edge--is a thin line for families like John and Jane. They now face problems like

Where can Jane get another job?
Should John continue farming?
How can they be retrained for another job?
Who will keep the kids if John's mother
gets sick?

Mr. Chairman, there are thousands of families like John and Jane in rural America. To address their problems requires a new look at our approach to our rural economy. We must have a new set of relationships between the three levels of government--federal, state and local--- our educational institutions and our business sector.

II. STATE APPROACHES--THE NORTH CAROLINA EXAMPLE

To address North Carolina's economic future, I recommended in 1985 that our General Assembly create the Commission on Jobs and Economic Growth. Its mission was to identify the major economic challenges facing our State and to develop practical proposals to meet those challenges. Their conclusions were submitted to the Executive and Legislative branches for consideration.

The Commission spent its first year studying the rural economy of North Carolina. They made a number of specific, practical suggestions. I will mention seven that have since become law.

First, a Rural Economic Development Center was created in 1987 by our General Assembly. This non-profit corporation analyzes the effects of governmental policies and international trends on our rural economy and promotes new initiatives for rural development.

The Center is governed by a Board of Directors chaired by William Friday, former President of the University of North Carolina. The General Assembly allocated $4 million for the first two years of the Center's operation, with other funding coming from private sources, including foundations and corporations.

Initiatives that were recently undertaken by the Center good examples of what can be accomplished. An allocation of money to an organization of business, education and civic leaders in western North Carolina will enable 17 rural counties to complete a comprehensive strategic planning process to agree on common solutions to economic problems. The Center is working with the Northeastern Education and Development Foundation to provide marketing assistance to rural crafts cooperatives serving low-income people. It is also conducting an analysis of small business financing needs in rural areas to develop specific proposals to improve the availability of financing for development and growth.

The Commission's second idea was a growth opportunity counties program. The Legislature authorized an income tax credit over a four year period to benefit employers who create jobs in our most economically distressed counties. It offers an incentive of $2,800 per new job created in those targeted counties.

Third, the State established a Clean Water Loan and Grant Fund for water and sewer systems. This $21.5 million appropriation was necessary to ensure development in some of our most depressed areas. It also filled many of the gaps left by the reduction in federal funding in this area.

Fourth, we are spending unprecendented amounts of money on elementary and secondary education. The Legislature has committed $800 million to the Basic Education Plan in our State, which will expand curriculum and reduce class size at all levels. One of the Plan's goals is to ensure that children in all counties, regardless of their wealth, receive a basic level of education that will prepare them for the future, and should eliminate many of the disadvantages faced by poor areas.

We also have started a $3.2 billion, ten-year school construction package. This will address the lack of adequate school facilities in many of our rural counties. In particular, a "critical needs" fund, established by this legislation, will provide additional construction dollars to counties that do not have sufficient revenue sources to address school facility needs.

Fifth, the Legislature appropriated $5 million to assist local governments of the most economically depressed counties with industrial development. Grants are to be used primarily for renovation of buildings to be used for manufacturing and industrial expansion.

Sixth, recent legislation authorizes North Carolina counties to create a single Industrial Revenue Bond authority. By combining into bond pools, these counties can sell their bonds at more favorable terms than if offered separately. This will especially benefit resource-poor counties.

Seventh, we have created a Housing Trust Fund. The Fund, which was initially capitalized by the fuel overcharge reimbursements received by our State as a result of the United States Supreme Court decision, will be used to increase the supply of low-income housing through loans, grants and interest reduction payments. This program will supplement our existing Housing Finance Authority, which is designed to increase opportunities for low and moderate income families, and first-time home buyers.

A final observation on the role of states in improving the rural economy: we must recognize that most future job creation is going to come from within--not from outside industrial recruiting. In fact, two-thirds of the net new jobs in North Carolina are currently created by small businesses.

In the past 20 years, North Carolina has done a good job of encouraging plants from other states and countries to locate in our state. But the days of the great "buffalo hunt" are rapidly ending.

Small, home-grown businesses are accounting for an increasingly large share of our work force. Between 1980 and 1982, for example, businesses with fewer than 20 employees created 2.6 million new jobs in our country, while those with more than 100 employees lost 1.7 million jobs.

We have addressed this new reality in a number of ways. We created the Technological Development Authority, which gives grants to technologically innovative companies and we created the Biotechnology Center, which encourages statewide economic development through commercialization of biotechnology. We have small business centers at our 58 community colleges and the campuses of the University of North Carolina.

In addition, we must have creative new public-private partnerships to prepare us for the 21st century. That is why I recently suggested reorganization of our economic development agencies in state government into one entity: the North Carolina Development Corporation.

This public-private entity would be governed by a Board of Directors, who would oversee our economic development with a hands-on management style. It would allow us to include our best minds in business, government and education in developing our strategy and allow authority to be exercised more creatively and aggressively without being burdened by unrelated agencies now located in our state Department of Commerce.

These new approaches exemplify the kind of creative thinking that we need to address the problem of rural economic development. They also show that we must have a coordinated approach among all levels of government. Our resources are too small and our time too short to miss opportunites to benefit rural economic development.

III. THE FEDERAL ROLE

Finally, Mr. Chairman, what is an appropriate federal role in rural economic development?

The new federalism requires a federal partner and we need a coordinated approach between the two levels of government. Many of the states are taking responsibility for their own economic salvation. But we are increasingly carrying the burden alone.

The problems that I have described are not just the problems of isolated areas--they are national problems. We know from history that a generation ago, the rural South exported its neglected, its unskilled, its displaced to the cities of the North where too many of them and their children suffer in slums today.

After a decade of rural renaissance in the 1970s, when hundreds of thousands of our expatriates returned, the rural South is exporting its poor and its uneducated once more. This time, however, they are going to the cities of the South, which are not more ready to absorb them into an economy requiring ever-higher skills than were New York and Chicago thirty years ago.

Atlanta, that hottest of economies, has the second highest poverty rate in the country. And Durham, North Carolina, with close to the lowest unemployment rate, has a poverty rate that almost matches the state average.

If our local governments, our state governments and our national government do not get together on a coordinated policy of fixing the problems in the rural areas, those problems will migrate to our urban areas where they will have economic and social ramifications for all of our region and country.

Fifty years ago, Franklin Roosevelt called the South the nation's number one problem. It is critical that the Congress recognize that the rural South is still a major domestic problem for the country.

Formation of Senator Fowler's congressional Rural Development Task Force and the Rural Economy Act of 1987 proposed by Senators Leahy, Sanford and others are encouraging signs. With a new administration to take office within a year, this is the ideal time to be urging new ideas for solving old problems. As you undertake this important task, I leave you with three thoughts.

First, investments in human capital are critical. North Carolina made these investments a generation ago under the leadership of Luther Hodges and Terry Sanford. It is no accident that we are reaping the benefits from the Research Triangle Park, our 58-campus community college system and our 16-campus state university system.

Thus, I challenge you to think boldly and creatively about the investments that we need to make together today for the rural America that we want for our children in the twenty-first century.

Second, I ask that you think beyond the simple reconstruction of the federal programs that were designed to help the manufacturing sector of our economy. We must ask new questions about the federal role, including:

*How can we use new technologies to build rural economies?

*How can we use telecommunications to move the best teaching available into our poorest rural school distircts?

*How do we address the national blight of illiteracy?

*What kinds of federal initiatives would encourage private capital sources to invest in rural business?

Finally, Congress should be wary of new, well-intended macroeconomic policies and programs that have the effect of devastating our fragile rural Southern economy. We need your leadership in eliminating the fragmentation in rural economic programs and in sufficiently decentralizing any new efforts to allow for local management and innovation.

CONCLUSION

The problem of rural economic development is not one that will be solved quickly or with one approach. Its origins date back decades. But with innovative approaches at the federal, state and local levels---and cooperation between the three levels---the current situation can be improved. That is our challenge---and our opportunity.

Thank you, Mr. Chairman. I would be pleased to answer any questions.

Chairman CHILES. Dr. Tweeten?

STATEMENT OF DR. LUTHER TWEETEN, ANDERSON PROFESSOR OF AGRICULTURAL MARKETING, POLICY, AND TRADE, DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY, THE OHIO STATE UNIVERSITY, COLUMBUS, OH

Dr. TWEETEN. Thank you, Mr. Chairman and members of the committee.

I would like to enter my written statement into the record.

Chairman CHILES. It shall be entered.[1]

Dr. TWEETEN. I will briefly summarize.

Rural areas are characterized by high levels of underemployment and poverty. No one that I know doubts those problems of rural areas. At issue is what Federal policy is appropriate to deal with those problems.

I have listed 10 premises, which I will cover very briefly, that in my judgment provide a basis for a rural development policy, something that the Federal Government in my judgment has not had in the past.

One of those premises is that public services are best provided and paid for by the smallest and most local unit of government within whose jurisdiction the benefits are realized. Military defense benefits cannot be confined to a local community or a State. The service is a national concern and has to be administered by the national government.

On the other hand, many community services benefits such as for water and electricity are realized within a local government jurisdiction so that local communities which reap the benefits can pay the costs.

On the other hand, services of education and welfare have strong spillover effects. In the case of education, in Oklahoma, for example, we found that in many rural communities up to 95 percent of the students educated in high schools left the community and the local school district, taking a rather massive amount of local funding invested in them. That spillout of benefits is not compensated by spillin. Here the State government and the Federal Government play a role because many of those benefits spill out even over State boundaries.

Similarly, in the case of welfare, Mississippi and Georgia problems spill over into New York and Chicago as people on welfare go to where the benefits are the greatest. So New York and Chicago have a stake in what happens to welfare benefits in other States.

The second premise is that people and families, not communities, are poor and underemployed. It is desirable, therefore, to target benefits. There have been a number of experiments going on in States in welfare reform, so-called workfare, where able-bodied adults are required to take work or training. Child care is provided. Workfare is a way of providing assistance while getting people off welfare rolls.

---

[1] See p. 200.

On the other hand, if the Federal Government provides an industrial park, that is not very well targeted. It does not necessarily go to the people who most need benefits.

A third premise is to let markets work where they have demonstrated that they have worked in the past. Thousands of people have left rural areas for the city. In Oklahoma, many agricultural, oil, and coal communities have died. The market has been at work here. The question is whether the Federal Government should have intervened to keep each one of these communities alive. I submit that the costs would have been very great and these communities would not have been able to warehouse these people in a satisfactory manner.

We have not done a good job of making the transition an easy one for these people from farm and mining communities. We could have done a better job, but we should not stop this process.

I have reviewed a good deal of literature which indicates that people who left declining occupations feel they are better off for having made that transition. Sure, there is difficulty in the interim, but the transition has been a benefit in the long run.

A fourth premise is that past Federal programs to bring jobs to people, primarily industrialization programs, have been poorly funded and poorly targeted. They have been largely ineffective; they have raised false hopes. In my judgment, future rural development programs are likely to suffer from the same difficulties.

If it ever could, the Federal Government is no longer in a position to subsidize the location of new industrial jobs in rural areas, partly because it does not know what criterion to use. If local governments and States want to go after smokestacks, that is fine; but this is a low-payoff activity for the Federal Government. It is very difficult for the Federal Government to know which communities should survive and which ones should decline.

A fifth premise is that the most successful public efforts to improve the wellbeing of people have been human resource development programs of education, training, and welfare assistance. These programs have been successful partly because they help people wherever they eventually reside. Spending to create jobs in a declining rural community or a ghost mining town will not help people who leave the community.

A sixth premise is that focusing on rural problems of poverty and underemployment awaits better data. I do not have recent figures, but in the 1970's, over $16 billion a year of Federal funds were allocated on the basis of unemployment statistics. Two studies of which I am aware have tested the Federal statistics on unemployment. Those Federal statistics are compiled in a haphazard manner. They are not based on actual surveys of the unemployed in rural areas. In these two actual follow-up surveys, personal in service in-depth analysis indicated that the official figures underestimated unemployment about 50 percent. In other words, rural areas have been discriminated against because of biased unemployment estimates.

A seventh premise is that rural areas are losing their uniqueness. Rural areas are now part of the rural-urban continuum. Rural people need at least a high quality of human resource and other programs as are serving urban America.

Rural areas have one important difference from urban areas. There is more space, there is sparse settlement in many cases, and there is high cost of providing many community services. The response often has been to subsidize rural services.

Rural areas provide amenities that are highly sought after by many people. Amenities attract people to rural areas. Should urban people be asked to subsidize people to locate in high-cost service areas? My contention is that if people want to locate in those high-cost areas to enjoy the amenities, they should pay the costs of providing community services.

The eighth premise is that many rural communities cannot afford the expertise to evaluate development options, plan community services, on determine feasibility of locating industrial plants. They have difficulty analyzing what is best for their communities. Smaller rural communities need help in getting the most out of the resources they have to work with.

The Cooperative Federal-State Extension Service has performed a vital role in the past in helping rural communities get the most out of what is available to them. In many cases, that has meant identifying leadership, helping communities to get organized, providing technical assistance, and improving their decision process.

There are some exemplary programs: Ohio, Oklahoma, and Wisconsin are good ones to learn what to do in rural areas with extension. Some modest increases in funding are required. It does not take a lot of money for these efforts, however.

A ninth premise is that the industry profile in rural areas is becoming increasingly like the industry profiles in urban areas. Less than 27 percent of counties are now agriculturally related, that is, they derive 20 percent or more of their income from agriculture and related services. Only 20 percent of rural jobs is either directly or indirectly dependent on agriculture. That means that paying attention to agriculture alone is not adequate to serve the needs of rural areas.

I do not want to de-emphasize the importance of programs of research and science to keep agriculture competitive. That is very important, but it is not adequate in itself. As in urban areas, the principal industry in rural areas is services. The principal economic base in rural areas is manufacturing. That means when you consider rural development policy you need to consider the manufacturing industry.

In the case of minimum wages, for example, it means that you do not want to set the minimum wage at such a high level that low-cost labor in rural areas is priced out of producing for national and international markets.

The tenth premise is that the well-being of rural people is heavily influenced by macroeconomic policies. In the last decade, rural areas have been on an economic rollercoaster and it has not been fun. In the 1970's, the money supply was increased at a rapid rate that expanded credit to a level that could not be sustained and that led to over-expansion in the agricultural plant. This same thing was going on all over the world. Inflation reached a level that could not be tolerated; that was dealt with by a recession in 1981 and 1982.

Then came huge Federal full-employment deficits which created high real interest rates and a high value of the dollar. This caused problems for rural areas, especially for agriculture because of the high interest costs, because of the high dollar cutting exports and making imports more competitive. Textiles, lumbering, oil, mining all were influenced. So, fiscal, monetary and trade policies are very important to the economic health of rural communities.

Finally, I list a brief agenda for a rural development policy. Foremost on that agenda is human resource development programs of education, vocational-technical training, and welfare reform along the lines that I mentioned earlier. Number two is information and technical assistance—again, I call attention to the important role of the Cooperative Federal-State Extension Service in providing help to rural communities so that they can get the most out of the resources that they have available.

Point number three is that if the Federal Government wishes to pursue the goal of bringing jobs to rural people, I would suggest a wage-earnings supplement program. This program would provide a Federal subsidy for some portion of the difference between the target wage and what the employee could get from the employer. This kind of program would target on disadvantaged people, it would encourage employment, it would increase output, and it would be a boon to many rural areas where wages are low and there are many underemployed people.

Finally, housing, food stamp, medicare, social security, and medicaid programs would be administered in a way that would serve rural and urban areas alike.

Thank you.

Chairman CHILES. Thank you, Dr. Tweeten.

[The prepared statement of Dr. Tweeten follows:]

ELEMENTS OF A SOUND RURAL DEVELOPMENT POLICY

Testimony by Luther Tweeten (Anderson Professor of Agricultural Marketing, Policy, and Trade, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus) before Senate Budget Committee, Washington, D.C., March 24, 1988.

People in rural areas have higher poverty and underemployment rates and lower education, labor force participation, and income than do people living in urban areas (see Tienda, p. 39). Many rural areas, especially low-income and sparsely populated places, are declining in population and have difficulty providing quality public services.

That rural areas have socioeconomic problems is not at issue. At issue is what public policy is appropriate to deal with these problems. The principles and values serving as the foundation for the rural development strategy presented later are discussed below.

(1) Public services are most efficiently funded and administered by the unit of government closest to the people within whose jurisdiction the costs and benefits are realized. National defense must be the responsibility of the federal government because benefits cannot be confined to county, city, or state borders. Benefits of rural water, electricity, waste disposal, streets and local roads, and telephone accrue mostly to specific local jurisdictions. For the most part, local communities or counties can make decisions regarding the appropriate level of these services and can tax themselves accordingly to fund such services. An exception is human resource investments in education and vocational-technical training (or retraining).

Surveys reveal that many rural school districts lose over 90 percent of former students. These persons have gone to live and work elsewhere, often outside their "home" state. Inflow of educated persons from elsewhere does not compensate. The problem applies to school districts and to states: States losing population export massive amounts of funds to other states in the form of human capital. The sending state pays the *economic* cost if the individuals receive adequate schooling; the receiving state pays the *social* cost if they do not. The transfer of local and state taxes through migration of human resources is mostly from low income states losing population to high income states attracting population. This is neither efficient nor equitable. One solution is for the federal government to share a greater proportion of the funding burden. That sharing of burden should not come at the cost of undue federal controls on local schools, however.

(2) A second premise is that people (or families), not communities, are poor or underemployed. Almost any poor rural community will have some middle or upper class families who can afford schools and other services so that taxpayers need not subsidize these families. People and families rather than communities are the appropriate target for federal public assistance and other transfer programs.

Similar reasoning to that for education in (1) above applies to welfare services. Inadequate welfare programs in the Mississippi Delta provide incentive for the poor to migrate to states with more generous programs. Thus Illinois has a stake in welfare reform in Mississippi. States with the least ability to provide for the poor have the highest proportions of poor and on equity ground need help to provide even minimal services.

For some depressed communities, such as those depending on mines that have been depleted, the best alternative is for people to find work elsewhere. For other communities, the best alternative is to attract jobs. The federal government is not very good at deciding such matters -- decisions are best left to the community and the state. As indicated elsewhere, however, the federal government does have a role in helping to ensure that residents have access to a sound basic education and information and to ensure that those unable to care for themselves are provided with assistance. Welfare reform along the lines of the so called "workfare" programs now in place in several states can at once address real needs while reducing incidence of chronic welfare dependency. Such programs emphasize work and training for able-bodied adult welfare recipients facilitated by day care for young children.

(3) A third premise is that governments should avoid interventions in markets which work. Markets work in rural areas. Largely in response to market forces, millions of persons have left the farm for other places (farm population fell from over 30 million in 1940 to less than 5 million today). Large numbers of oil and mining communities lost their population and economic base as local minerals were depleted. The adjustments were not easy, especially for people from farms, but studies show that for the most part even these people were better off after overcoming the initial difficulties of adjustment (Tweeten and Brinkman, pp. 88-92). Of course, the government could have better prepared these people for the transition with skills, job information, and moving assistance. But it is very likely that a heavy hand by government in deciding which farms or communities should prosper or decline would have raised rather than lowered the costs of adjustment and left rural areas warehousing people they could not properly care for.

It is appropriate for the government to correct market failures such as arise in the provision of public goods. An example is the provision of basic research and information systems for food and agriculture. Market corrections by the government are appropriate only if there is confidence that gains from government intervention will be greater than the cost of the market failures which the interventions would correct.

(4) The fourth premise is that federal efforts to promote rural areas by bringing in industrial jobs have been ineffective and poorly targeted. Federal rural development programs have done little to erase socioeconomic differences among geographic areas. I have elsewhere (Tweeten and Brinkman; ch. 14) reviewed the history of a large number of efforts by the federal government to intervene to improve employment and earnings in rural areas. Job development efforts include the Rural Development Program under the Eisenhower Administration in 1955, the Rural Areas Development Program (1961) and the Accelerated Public Works and Area Redevelopment Administration during the Kennedy Administration; then the Economic Development Administration in 1965 and the Rural Development Act of 1972, and the Farmers Home Administration business and industrial loans of more recent years. These and other rural development programs were consistently characterized by very modest funding, lack of meaningful criteria to focus funding and programs, and, not surprisingly, little impact. We should expect no better from programs in the future. Based on history, future federal programs to bring jobs to people will raise false hopes and will be more cosmetic than substantive because they will lack funding and focus.

A growing body of evidence indicates that growth in rural communities is more likely to come from expansion of existing local firms than from attracting new branch plants. Efforts to help existing firms become more competitive in national and international markets hold more promise for rural areas than does the traditional "smokestack chasing" approach. The federal government no longer can, if it ever could, afford to fund such low-payoff activities.

(5) The fifth premise is that the most successful public efforts to improve the well-being of people have been human resource programs of education, vocational-technical training, and public assistance — the latter for those unable to care for themselves. Human resource development programs have been successful because they help prepare people for jobs wherever those jobs may be located.

The facts belie the image of rural migrants as Joad-like characters from the Grapes of Wrath, of rural disadvantaged people inevitably bound for the urban ghetto. Millions of persons from the farm and rural America have found their niche in urban society with pride, dignity, and achievement. Emphasizing this fact is not intended to minimize the problems of adjustment encountered by many farm and rural residents when confronted by diminishing economic opportunities in rural areas. Human adjustments are inevitable in a dynamic, growing economy. The public and private sectors can do a better job than in the past preparing people and helping them through the process with retraining and other efforts mentioned earlier.

(6) A sixth premise is that proper definition of rural problems of poverty and underemployment awaits better data. Lack of local opportunities causes high underemployment in many rural areas. Outmigration has helped to ease problems but difficulties remain. Underemployment is defined as earnings below what would be a reasonable level of earnings based on national standards for persons of given age, education, and experience. Billions of dollars of federal funds have been allocated to work force programs based on the criterion of unemployment. However, unemployment is an inadequate

concept and indicator of need for human resource development and employment services in rural areas. Studies indicate that current data gathering techniques typically underestimate rural unemployment by half (see Tweeten, 1986b, p. 9).

Rural persons seeking work are often far from public employment services or are not covered by unemployment insurance and are usually not recorded on unemployment roles. Numerous underemployed people in rural areas are not reached by federal surveys of unemployment or are self-employed persons never designated as unemployed. To be counted as unemployed, workers must be actively seeking work. In many rural areas, the few local job opportunities make the job search a brief process. Job seekers become discouraged or they drop off the unemployment roles but remain underemployed. That is, they work at jobs that do not utilize their capabilities. Consequently, rural people are undercounted and underserved by federal manpower and development agencies. Compared to unemployment statistics, underemployment would measure underutilized human resources and subsequent need for job development opportunities in rural areas. However, the federal government has never invested sufficient resources to develop proper measures of underemployment (see Gilford, et al.). Also, measures of the cost of living are necessary to gauge the level of living and economic problems of rural areas. The U.S. Department of Labor has sporadically attempted to provide rural people with job information but has never devised an effective, efficient program. Pilot job information and placement programs need to be evaluated to determine whether benefits exceed costs.

(7) A seventh premise is that rural areas are losing their uniqueness and are in fact part of the rural-urban continuum. It makes less and less sense

to have separate programs for rural areas and urban areas. Human resource development programs need to serve all sectors of the nation.

Other community services are another matter. A principal distinguishing feature of rural areas is space. Sparse settlement raises costs of providing community services. But space also gives benefits in amenities attending the beauty of nature and less congestion. Rather than have the federal government subsidize rural services such as water and electricity encouraging people to reside where community service costs per person are high, it seems wise to let rural area residents themselves decide what level of community services they want and will pay for. They then can decide whether the amenities of rural living will compensate for higher costs of services they will pay for.

(8) An eighth premise is that many rural communities, unlike larger cities, cannot afford the professional expertise to help them make pivotal decisions that determine their individual and collective (community) destiny. The Cooperative Extension Service personnel help a community to use its resources more efficiently to reach its goals. They help communities evaluate options for face-lifting main street, for improving community services, or for seeking new plants or expanding jobs in existing plants. The funding increases necessary for Extension to do a more complete job are modest.

(9) A ninth point is to recognize that, although, agriculture is a very important basic industry to rural communities, rural communities are diversified. Deavers and Brown (p. 9) classified only 27 percent of all nonmetropolitan counties as farming-related (20 percent or more of labor and proprietor's income from farming). These counties contained only 12 percent

of the nonmetropolitan population and were especially prominent in the western Cornbelt and the Great Plains. Most rural counties depend on other industries for their economic base.

The following data for 1980 for all nonmetropolitan counties indicate the economic base as measured by proportions of nonmetropolitan employment:

	(%)
Agriculture	7.0
Mining	2.2
Manufacturing	31.5
Transport and Trade	19.5
Services	39.8
	100.0

Source: Tienda (p. 42)

Using a generous multiplier of one agricultural job creating two additional jobs in rural areas, the 7 percent of employment in agriculture means that about one-fifth of jobs in rural communities depend directly or indirectly on farming. A major economic base in rural areas now is manufacturing in its varied forms. The profile of rural industry is converging substantially with the profile of urban industry (see Tienda, p. 41; Tweeten, 1983, pp. 176, 177). Most rural industry is service industry, as noted above, and some of that service industry is basic -- drawing dollars from outside -- and not just tertiary industry serving local manufacturing and extractive industries. High-paying service and manufacturing industries require well developed human resources. A federal dollar directed to education of rural youth will do more for the well-being of rural people wherever they eventually reside than another dollar of commodity program transfer payments.

(10) A final, highly important point to recognize is that rural (and urban) jobs and residents are heavily influenced by macroeconomic policies--

monetary, fiscal, and trade.

Erratic and generally overexpansionary monetary policies in the 1970s extended worldwide credit, trade, and income at rates that could not be sustained. Retrenchment began with a cutback in money supply that brought world recession in 1981 and 1982 and the financial crisis in Latin America which has lasted much longer. Massive full-employment federal deficits in the 1980s brought high real interest and exchange rates and lower farm exports, land values, and income. The high dollar brought hardship not just to farmers but to workers in other industries competing for exports or with imports. These include textiles, lumbering, and mining industries which are prominent in rural areas. Sound monetary-fiscal policy would make economic life less uncertain and more tolerable in rural areas and just might help to create more jobs and income.

A Rural Development Policy

The above considerations suggest a very modest list of federal programs for rural (and urban) development. The major components are:

(1) Greater federal funding of human resource development programs. These are essential to the well-being of rural people, wherever they eventually reside. Education assistance would reward local funding effort, emphasize assistance for basic skills, and would at least partially compensate for net outflow of residents without at the same time exerting a heavy federal hand over local control of schools. Welfare assistance would emphasize reform such as the workfare now being used in several states.

(2) Programs of educational funding and welfare reform noted above would come from agencies other than the U.S.D.A. , but the latter needs to continue

its excellent program of information for rural development (see U.S. Department of Agriculture, 1987). The Cooperative Extension Service efforts can be expanded to help rural communities identify leadership, organize for action, and receive technical (feasibility study) assistance and advice on questions of whether to upgrade or expand community services, and what if any industry to seek or expand. An expanded educational program for rural areas would help local leaders and firms better understand and anticipate the macroeconomic forces and structural changes which often swamp local efforts. A number of states including Ohio, Oklahoma, and Wisconsin have excellent programs which can be used as models.

The above policy or strategy is far less complex than previous rural development efforts. It does not include federal assistance for community services or directly for job development. If a job development program is initiated, I suggest it be a wage-earnings supplement which would automatically target disadvantaged, underemployed, low income workers. I have described the program elsewhere (Tweeten, 1986a; Fall 1987) in some detail. The federal government would pay a supplement equal to (say) half of the difference between a target wage of $6.00 per hour and whatever wage the adult worker could obtain from an employer. If the worker could receive only $2.00 per hour, the supplement would be .5(6-2) = $2.00 for total income of $4.00 per hour. Working 2,000 hours per year, total income would be $8,000. A family of two wage earners could earn much more. The program would encourage persons to seek work and employers to hire them, would reduce poverty, be self-targeting, and increase employment.

Housing, Food Stamp, and related programs would be administered as national programs serving rural and urban areas alike.

References

Deavers, Kenneth and David Brown. 1985. Natural Resource Dependence. Research Report No. 48. Washington, DC: Economic Development Division, ERS, USDA.

Gilford, Dorothy, Glenn Nelson, and Linda Ingram, eds. 1981. Rural America in Passage: Statistics for Policy. Washington, DC: National Academy of Sciences Press.

Killian, Molly, Leonard Bloomquist, Sheliey Pendleton, and David McGranahan, eds. 1986. Symposium on Rural Labor Markets Research Issues. ERS Staff Report Number AGES860721. Washington, DC: Economic Research Service, U.S. Department of Agriculture.

Tienda, Marta. 1986. Industrial Restructuring in Metropolitan and Nonmetropolitan Labor Markets. Pp. 33-70 in Killian et al.

Tweeten, Luther and George Brinkman. 1976. Micropolitan Development: Theory and Practice of Greater-Rural Economic Development. Ames: Iowa State University Press.

Tweeten, Luther. October 1983. Past and Prospective Economic Development of Rural Communities. Pp. 174-197 in Congressional Research Service, Library of Congress, Agricultural Communities: The Interrelationship of Agriculture, Business, Industry, and Government in the Rural Economy. (Committee on Agriculture, U.S. House of Representatives, 98th Congress, First Session.) Washington, DC: U.S. Government Printing Office.

Tweeten, Luther. 1986a. New Policies to Take Advantage of Opportunities for Agricultural and Rural Development. Pp. 215-226 in Peter Korsching and Judith Gildner, eds., Interdependencies of Agriculture and Rural Communities in the Twenty-First Century: The North Central Region. Ames, Iowa: North Central Regional Center for Rural Development.

Tweeten, Luther. 1986b. Rural Labor Market Performance. Pp. 5-32 in Killian et al.

Tweeten, Luther. Fall 1987. Sustainable Economic Progress for Rural America. Forum for Applied Research and Public Policy 2:48-56.

U.S. Department of Agriculture. 1987. Rural Economic Development in the 1980s. ERS Staff Report No. AGES5870724. Washington, DC: Economic Research Service, USDA.

Chairman CHILES. Dr. Koepke?

STATEMENT OF DR. GENE KOEPKE, DEAN, SCHOOL OF BUSINESS AND TECHNOLOGY, KEARNEY STATE COLLEGE, KEARNEY, NE

Dr. KOEPKE. Thank you.

Mr. Chairman and members of the committee, my name is Gene Koepke, and I am dean of the School of Business and Technology at Kearney State College, in Kearney, NE.

I guess I consider myself a rural American, although I am certainly not involved directly with production agriculture. As I start my testimony today, I would like to suggest that I am not speaking just as a central Nebraskan but, rather, I feel as if I am speaking for rural Americans from all of the Midwest and the Great Plains States. The specific problems in rural America that I will address this afternoon are the same everywhere in the heartland of America.

I would also like to point out as I start my testimony that I am not here to address the problems of production agriculture. Production agriculture is certainly related to my topic this afternoon, but it will not be the focus of my presentation.

I am here to talk about rural economic development and the economic health of our many rural communities. No doubt, we could spend the rest of the afternoon trying to define or arguing about what constitutes a rural community and it really is not worth doing.

In Nebraska, the 1980 census indicated that 90 percent of our 535 incorporated communities had populations of less than 2,500 people. Those communities are all small, they are all rural, and they are all typical of the many communities dotted across Kansas, Iowa, Colorado, Illinois, Minnesota, Oklahoma, South Dakota, Missouri, and so on.

In spite of the fact that farmers and ranchers have had two good years back to back and are anticipating that 1988 may prove to be a third good year, many of our rural communities are not healthy economically and the problem may well be getting worse.

Many small rural communities have lost key retail businesses such as implement dealers, banks, clothing stores, lumber yards, car dealers, theaters, and the list goes on and on. It is not at all uncommon to find many vacant retail locations on the main streets of small rural communities. One might also expect to find what was once prime retail space allocated to such uses as meeting rooms, community centers, senior citizen centers, and other nonbusiness or other activities that are noneconomic in terms of their purpose. These observations are only symptomatic and are tied to the retail health of the community.

The problem is unfortunately no longer simply confined to the retail sector of the typical small rural community. In some cases, the very structure of the community is being challenged and the once wonderful quality of life that we all reminisce about is quickly being eroded. Recent studies have indicated that poverty levels may be rising in some rural areas and one author has even gone so far as suggesting that the Great Plains States could turn into the next "Appalachia" in America.

A University of Nebraska economist, Bruce B. Johnson, recently reported a significant increase in the use of food stamp programs and the aid to dependent children program in counties in Nebraska where 20 percent or more of the wages and proprietary income is derived from farming. Fifty-seven of Nebraska's 93 counties are agriculturally dependent, using Johnson's definition. In these counties, there was a 108-percent increase in the food stamp program and a 49 percent increase in ADC participation during the 6-year period of 1980 to 1986. This contrasts sharply with only a 21-percent increase in the food stamp program and only a 10-percent increase in the use of ADC during the same time period in the Omaha and Lincoln areas.

What should we expect to happen to our small rural communities? What do we want to happen to our small rural communities? If we simply wait and do nothing, then we might well find that many of our small rural communities with virtually no retail services, no health care facilities, poor and shrinking school systems, shrinking tax bases, fewer public services, falling housing values, fewer and fewer young families, and so on. In short, we will collectively lose much of the investment we have made in rural America over the past 100 years—long before that investment has in fact been depreciated.

We should not be surprised. The forces at work in rural America are not new. At the heart of the problem is production agriculture. Agriculture has become less and less labor intensive over the past 40 years or so. We have not needed younger people on our farms and they have not found good jobs in our small rural communities, so they have moved on to the bigger cities, causing a general decline in the population base of rural America. It is not at all uncommon to find rural counties that have half the population that they once boasted in the 1940's. In Nebraska, 75 of our 93 counties had their population peak more than 50 years ago.

The average age in rural America is moving up as our younger people have moved away. Older people are wonderful to be with, but they do not do a lot to support their local economies through purchasing of goods and services. Their wants are fewer and simpler than the wants of young growing families.

Other forces are also at work in rural America. Shopping habits have changed and we have witnessed a concentration of shopping facilities in larger communities which are powerful magnets pulling retail dollars out of smaller communities. This trend has only aggravated an already complex problem.

Some might argue that it is too late to help many small communities and perhaps we should stand aside and let nature take its course. After all, the fundamental reasons for the birth of most rural communities has probably vanished. I might even tend to agree with this logic if it was not for the social and economic problems that will accompany a further decline in the economic vitality of our rural communities.

Americans have collectively made a huge public investment in small rural communities through the development of roads, sewers, electrical systems, phone systems, water systems, pools, golf courses, schools, libraries, and the like. To this public investment, please add the billions of private dollars invested in housing, churches, businesses, and equipment. Even if we could factor out the human suffering associated with a further economic decline in rural communities, it would be absurd in an economic sense to abandon our investment without first attempting to deploy our assets constructively for the good of all America.

As U.S. Senators, I urge you to consider developing solutions for a problem while we still have some time. We do not need another "Appalachia" or the equivalent of "intercity decay" to fix at a time when our deficit problems are already serious.

Unfortunately, I, like most, find it easier to identify the problems than to propose solutions. Nonetheless, I am pleased to have been asked to share my ideas with you and I will not pass the opportunity to attempt influencing your thinking.

I would like to make some recommendations that I think are fairly specific—some of you have heard and some of you perhaps, have not heard.

I would like to start with production agriculture. I guess the——

Chairman CHILES. I have to interrupt you right there. We are half-way through a vote, so we are going to have to run and vote and then we will come right back.

Dr. KOEPKE. All right, I will stop. It is a good stopping point.

[Short recess.]

Chairman CHILES. I think we can get back to work.

Dr. KOEPKE. I was just at a good stopping point, because I was at a point where I was going to start through some of the recommendations that I would like to make and take advantage of your ear.

As U.S. Senators, I think that you have to be very mindful of any sudden shifts in farm programs and realize that any sudden shifts would have a far-reaching impact on all of rural America, not just the producer. Too often, we hear out in the central part of the United States that our farm program is the equivalent of a welfare program for a small occupational class. I do not believe that for a minute and urge you to understand that a sudden or dramatic cut in the current farm program could trigger a reaction that would do permanent damage to many rural communities that are already weakened by the farm crisis of the mid-1980's.

I guess I would like to think that many of our rural communities have been in a state of decline since probably the 1940's, if we could devise an index to measure economic vitality. And if we think of the mid-1980's, when agriculture was really having a hard time, many of those communities that were already on a plane down started into a free-fall. These communities are just starting to bounce back a bit.

Two, through the redirection of monies already available, we should start to consider processing more of our agricultural commodities in rural America. Too often, we are content to focus our energies on producing more and more of a commodity and exporting the production without adding value. We should encourage research and the development of model programs that add value to some of our basic commodities. We should not, for example, consider corn just a feed grain, but, rather, we should consider it as a renewable natural resource that could be used as an efficient source of energy and for other purposes.

Byproducts of a policy shift in agriculture might well stimulate job creation in rural America, and that is the key. We might also learn that by employing our industrial technology to the process of adding value to agricultural commodities, that we could more effectively compete in world markets and at the same time stimulate real demand for those commodities.

In the area of job creation, believing like I do that jobs are a key to the revitalization of rural America, I would encourage you to consider developing a system of tax credits for larger, established businesses that are willing to invest in the process of job creation in rural America. Please consider encouraging businesses such as electric utilities, phone companies, gas companies and others that already have a vested interest in rural communities to form partnerships with smaller businesses to create jobs. Consider tax credits for activities such as investmenting venture capital monies in small growing businesses in communities with populations below 25,000 people. Consider tax credits for investments in facilities such as incubators that might help spawn a successful business employing 5 or 10 people.

As U.S. Senators, please consider using your influence to encourage various agencies to focus their resources on helping rural communities. For example, the Small Business Administration might be encouraged to expand its present procurement assistance program to help small businesses in rural communities enjoy greater success in competition for Federal contracts. The Small Business Administration might also be encouraged to expand the scope of Business Development Centers so that they could deal with problems relevant to whole communities, rather than just dealing with individual business problems.

Perhaps a good starting point might be a systematic search of all Federal agencies to find out what assistance programs are currently available to support small business and our smaller rural communities. No doubt there are programs that touch areas such as aging, health care, legal aid, education, government, recreation, and small business, and I am not sure anyone has a good handle of all the agencies and what they really do.

I would also like to encourage you to make some monies available to support some basic research that could help us all better understand the problem that we face. My personal contacts with many rural communities have caused me to conclude that it is not all is well in rural America, in spite of the fact that the agricultural producer has had a couple of pretty good years.

We need to quickly focus our attention on the problems that I have been discussing today to develop a better feel for where we currently stand. As is the case so many times, there is a little information scattered here and a little over there and a little more information some place else. I think we have to do what we can to try to pull all that information together.

As a final recommendation, I would like to encourage you to do what you can to support good communication systems in rural America, and those communication systems can fall into a couple categories. Certainly telecommunications are vital in this day and age, if rural communities are going to be competitive at all, and you also have to look at other communication systems or ways of getting merchandise and goods and services in and out.

I am particularly concerned, as a south-central Nebraskan, with their subsidies and what you are doing to support air service in some of the small rural communities. If we lose what air service we have, we are really going to be cut off from the rest of the world, and it would be absolutely the poorest possible time to lose it in this day and age.

I will say thank you for your attention. Thank you for your interest in rural America, and I will be happy, as all the others, I guess, to answer questions.

Chairman **Chiles**. Thank you. Senator Sanford.

Senator **Sanford**. Well, thank you all very much. That was extremely interesting testimony.

Dr. Koepke, I liked a great many things that you suggested. A great many very good ideas, but, dollars for basic research? Isn't the university already in a position to pull together all of the information that is available?

In other words, we sit here with so many demands. It looks to me that if we could have from the various land-grant universities a pretty good idea of what is needed with research that they are in a position to do, we could maybe use Federal dollars better some other way.

Dr. **Koepke**. Well, I think that one thing we have to realize is that we cannot make decisions unless we have good information to make decisions with, and that is the point I am trying to make.

Now from your perspective, you might rather see a refocusing of priorities in agencies that already exist, so that RFPs could be written to invest more of the research monies that are already available in some basic research, again, that would give us a better feel for what is going on——

Senator **Sanford**. I just hate to think of all of our resources in land-grant colleges sitting around, waiting for us to send them some research money.

Dr. **Koepke**. I understand that.

Senator **Sanford**. Let me ask Governor Jordan this, which relates to the question I just asked. For what Federal money is available, how is it best managed between the State and the regional and the local governments?

Mr. **Jordan**. Senator, our experience has been, particularly recently, that the closer you can get to the local government, as some of the others testified here today, the better off we are going to be.

One of the problems we have had, of course, is getting the local units to do proper planning so they prioritize for themselves the things that they want to do, or they need to do.

I think one of the things that could be done is for the Federal Government to assist us as much as possible in seeing that local governments do use those organizations that are already there to properly plan and prioritize their needs as they see them.

Senator **Sanford**. I noticed in your testimony you are referring to the 17 counties in western North Carolina, and they are planning and they get money to plan. I kept wondering what they do with all that planning now, or where does it go from there, and how does the rural community get the benefit?

Mr. Jordan. Well, the rural community of course knows what to do, and at least the local governments, with what funds they have can prioritize those funds, but they continually have to have more.

The Rural Economic Development Center that we started in North Carolina is going to go in and focus on this. We have a Western North Carolina center.

The thing that we are trying to do is to target resources. Of course as you know, education runs through all of these things, and we are about at the position now that the State is doing about all it can, particularly in North Carolina.

As I mentioned in the testimony, Mr. Chairman, we put about $3.2 billion in a new school facility program, and we are trying to actually have a critical need, so those counties who have the most needs can get the money.

But the Federal Government needs to help us, particularly in the educational area, and in some of the infrastructure areas, where it can, to help utilize those plans that they have made.

Some of those places will not be able to do it on their own.

Senator Sanford. We had testimony some time ago, in a related committee, on this same subject generally. It was pointed out that the Federal Government is spending far more money this year and last year than it has ever spent in farm programs, and it was suggested that the Federal Government is pretty well doing its share of rural problems with our extensive support for the agricultural sector.

What do you say about that from a State level?

Mr. Jordan. Well, Senator, I would say that where we may have a farm policy in America we do not have a rural policy in America. I think we need to focus and understand that those, while they go hand in hand in many instances, there are a lot of other things going on out there besides that.

We have biotechnology in the Research Triangle as you know. We have a lot of research going on, and ideas going on, but we do not have a policy as to how to get those things out there to the rural areas, where they might create jobs and keep some of our people there.

Senator Sanford. Thank you.

Let me ask Mr. Secretary Bergland a question. I noticed a clipping in December, that great voice of the common people, the "Wall Street Journal," said that you were making a tacit admission that REA has outlived its usefulness, you are looking for a new mission, and you talk about all of this development. I would like to give you a chance to comment on it.

Mr. Bergland. Well, Mr. Chairman, the agency was created 55 years ago to deal with the enormous problem of 8 million families with no electric lights, and no hope of getting any.

The combination of a Federal law, the REA, teaming up with local enterprise has accomplished that basic initiative, so that particular social problem has been effectively met, but there are other problems, particularly in the area of jobs, and I think the agency needs to change its focus to add to that job dimension other kinds of services to tie into the local communities——

Senator Sanford. And to protect its investment.

Mr. **Bergland**. And to protect its investment. Yes, sir. We have some cooperatives in jeopardy, Mr. Chairman, because the local economies are falling apart on them. Large government loans have been made to some of these cooperatives for generating plants on which construction began 10 years ago when the economy was booming, and now it is a different story.

Senator **Sanford**. Thank you very much. Dr. Tweeten, I am sorry to have missed you but my time has expired. I thank you.

Chairman **Chiles**. Senator Boschwitz.

Senator **Boschwitz**. Dr. Tweeten, I note that you are now in Ohio. I did not know that you had made that change.

Dr. **Tweeten**. I think I have lived in almost every State that is represented here on the committee.

Senator **Boschwitz**. Is that right? I know that you have been very active with my colleague, Dave Boren. He and I have worked together on some important agricultural problems, and he always has referred to you. I do not think that we have ever met.

I enjoyed your testimony, as well as Secretary Bergland's testimony on how to have more competitive energy in rural areas.

I am just about to introduce a rural development bill, and I emphasize some of the things that you talked about when you emphasized Federal funding of human resource development programs.

It is not clear to me how you propose to use human resources development to make rural areas more attractive to the cutting-edge industries in our society.

I must tell you that I am not entirely comfortable with the idea that—as you said earlier in your testimony—many of our school districts will lose over 90 percent of their former students.

I am not sure how we are going to keep them out in the rural areas on the basis of greater Federal funding of human resource development programs. I face the same problem in my bill.

I also would like to ask you to expand a little bit on your wage-earning supplement.

How are we going to keep them out on the farm, so to speak, by greater Federal funding of human resource development programs?

Dr. **Tweeten**. No job creation or retention program will hold people in rural areas. You are not going to keep them and you do not want to keep them. The beauty of funding human resource development programs is that they serve people, no matter where they eventually reside. If they move from Ohio to Florida, they will bring that investment with them to improve their quality of life.

Now sometimes—in fact it is a characteristic, that the areas that lose the most people are the poorest areas. The reason those people leave is because there is lack of opportunity. Capital that is invested in people comes at very great sacrifice to that local community.

And so the State government and the Federal Government have a role in reducing that burden that is going to spill out, inevitably. Even the most prosperous school districts lose most of their people. The prosperous communities are compensated by spill-ins, so we are not going to weep for those folks. It would be a major mistake to keep people in depressed communities.

In Oklahoma, we have lost two-thirds of our rural communities. We could still have them if the Federal Government would have put in enough money. But I do not think that taxpayers elsewhere in the country want to pay that massive cost of preserving every rural community.

Senator BOSCHWITZ. But why, then, this wage-earning supplement? Isn't that just what you are now saying should not be done? And how does one restrict that?

Where does that wage-earning supplement begin and where does it end?

Dr. TWEETEN. Well, I would use a target wage of, let's say, $6 an hour. That is arbitrary. That is going to target disadvantaged workers, workers who have trouble obtaining employment. Unfortunately, rural areas contain many of those people. Rural areas are characterized more by underemployment than unemployment.

We need some way to reduce the level of unemployment among the disadvantaged in this country, particularly as we move toward responsible fiscal policy. In the past few years we have been using massive Federal deficits to stimulate the economy. It has worked but it is an unsustainable policy. We have had one of the longest periods of recovery in history in this country. That is highly desirable, but we cannot go on with it.

The problem is, if you cannot run these full-employment deficits, how do you keep people employed? Can you do it by a wage supplement? I suggest the wage-earners supplement as welfare reform that will increase employment.

Senator BOSCHWITZ. Does that wage supplement apply to the poor in the cities?

Dr. TWEETEN. I would apply it across the board, yes. To the ghetto, to the rural areas.

Senator BOSCHWITZ. The wage supplement would apply to everybody that is working at a rate below $6?

Dr. TWEETEN. Yes.

Senator BOSCHWITZ. Have you costed that out?

Dr. TWEETEN. The cost is fairly substantial and there would have to be some realignment in current programs to fund it, but there would also be some savings because unemployment insurance and other welfare costs would go down.

Senator BOSCHWITZ. I will be interested in seeing how much that all costs. It would seem to me that in a way it would drive some wages down if you had the Federal Government making a payment between whatever is paid and $6 an hour. But I am pleased to hear the testimony of each one of you, and I thank you very much, Mr. Chairman.

Chairman CHILES. Thank you, sir. Senator Exon.

Senator EXON. Mr. Chairman, thank you very much, and I have listened with great interest to the expert testimony that we have received here today.

I do not have any basic questions of either Governor Jordan—although I thought you made some excellent points—nor of Dr. Tweeten, and I do not care to engage in conversation with Dr. Tweeten because he has some Oklahoma connections, and I would simply tell him that the general prosperity and morale of Nebraska would be much better if Oklahoma would be a little kinder to us in the fall of each and every year. [Laughter.]

I do not mean to shunt you aside, Dr. Tweeten, but first things first. I do have some questions for both my friend of many, many years, back to the time he served so ably in the House of Representatives, and since then in many important capacities, including Secretary of Agriculture, and that is former Congressman Bergland of Minnesota.

And of course my friend and colleague from Kearney, NE., Dr. Koepke. I listened to your testimony with great interest, Dr. Koepke. Thanks for being here, and I want all to know that Dr. Koepke is not only a great educator but he is considered an expert on rural development in Nebraska, and around the nation, where he has spoken on many occasions. I thought that his testimony would be excellent for this very important part of our deliberations, and he has given adequate testimony today as to the positive suggestions that we have. I would just simply say, Dr. Koepke, I agreed with all parts of your testimony.

I only have a caveat on one part of the testimony that you gave, and on two occasions I heard you say that the last 2 years had been generally positive, profitable years for Nebraska agriculture.

Now that is true for lots of reasons. Number one, we have had good crops and we had bountiful harvests. The most important reason that we have had some profitability out therein certain sectors of agriculture is that over half of the net income of most Nebraska farmers today come in the form of Government checks, and I did want to correct that.

It is not what we think of production agriculture producing for the marketplace. The fact of the matter is that if we would pull out the underpinnings of finance——

Chairman CHILES. All the money you have put in the budget for those checks.

Senator EXON. Of the farm bill, which we are going to put in the budget, we would be in deep, deep trouble out there, and I think you would recognize that.

Let me start out, if I might, first, by asking Mr. Bergland this question. I do not believe you mentioned in your testimony what the REA position was with regard to the refinancing operation that we went through last year, in which we were partially successful.

Has a decision been made by the REAs, that it would be beneficial to carry out the extender program that you outlined here today, if we could continue with that refinancing effort?

Is that going to be pushed by the REAs this year, or has that decision not been made?

Mr. BERGLAND. Well, it will be pushed, Senator Exon. We are grateful to you and your colleagues, and you, in particular, in this matter, for your valuable support and assistance in the question of refinancing the hard-pressed generating and transmission cooperatives, that in many cases were stranded by the local economy.

Your efforts have paid off, generated $2 billion in refinancing authorities. The REA quickly implemented those rules and that refinancing is now accomplished, and thank you very much.

Senator EXON. Are we going to be trying some additional work in that area this year?

Mr. BERGLAND. We are. We are working with the staff and members of the Committees on the Budget in both Houses to see how this matter might be best accommodated.

I know that there is a great deal of interest in asset sales. Here is an asset that could be sold at par, cash transferred to the Treasury, which would allow our hard-pressed borrowers to refinance at a lower cost, and we think it is a win/win situation.

There is political opposition to it, so it is complicated, but, yes, sir, we are now taking inventory to find out how many loans are still outstanding at interest rates above today's commercial rate.

Once that number is established, we will be talking to you.

Senator EXON. Thank you. I wanted to get that entered in the record, Mr. Chairman, and since we are very hard-pressed for funds—and we have had meetings in the last 2 or 3 days—it seems to me that the REA refinancing could be a big help to all parties concerned in the short-run, at least, with regard to the budget pinch that we are in. We should not overlook that.

[The following was subsequently supplied for the record by Mr. Bergland:]

Last year the Congress approved a provision of the Reconciliation Act which required the Rural Electrification Administration (REA) to permit prepayments of no less than $2.0 billion of REA guaranteed Federal Financing Bank (FFB) loans during fiscal year 1988. Early this year $2.0 billion of such FFB loans were prepaid, and the Administraiton has determined that it will treat the "floor" of $2.0 billion as a ceiling. Therefore, those systems which have submitted requests for prepayment (in addition to the $2.0 billion already approved) have been unable to refinance these FFB loans using private capital. Thirty rural electric systems have submitted such requests which have not been approved by REA for prepayment of $5.67 billion of FFB loans. In addition, 18 rural telephone systems have submitted such requests, also not approved, for prepayment of $61.2 million of FFB loans.

Senator EXON. Dr. Koepke, I want to introduce at this time, for the record, S. 1729, which is a bill that addresses many of the concerns that you so ably brought up in your testimony here today. It is authored by Senator Leahy, the chairman of the Agriculture Committee, and I am a cosponsor of this bill.

The short title of this is the Rural Economy Act of 1987. The purpose of this act is to encourage locally based development initiatives benefiting all segments of the population in small rural communities, and to ensure that certain basic needs for essential services in rural communities are met.

This would carry a price tag of about $300 million the first year, and about $500 million in years thereafter.

Now I do not know whether you are familiar with this bill or not, but I would like to introduce this in the record at this time, Mr. Chairman.

Chairman CHILES. Without objection.[1]

Senator EXON. And have you take a look at it. And I think that this is the type of legislation, along with others that have been authored by my friend, and colleague, Senator Boschwitz from Minnesota. We have got to do something in this area up here to help out. Otherwise, we are going to have this problem that you have all outlined in rural America, come rushing home to us in the immediate future years.

Have you seen S. 1729, and do you like its general approach? If you have not seen it, I will get you a copy of it, and I would like to have you take a look at it.

---

[1] See p. 227.

Dr. KOEPKE. I have to tell you, I have not looked at the bill.

Senator EXON. I think my time is up. There is just one other question that I might have at this time. Let me hold it. Is there going to be a second round, Mr. Chairman?

Chairman CHILES. Go ahead.

Senator EXON. I think it is important, that while production agriculture is, you know, the key to rural America—and I think you have pretty well spelled that out—we must continue to diversify and do other things that balance out, so that we can have stability in the long range.

And some of the excellent suggestions that you and others have made here today are exactly on point, it seems to me.

But while we talk about agriculture, I think we have done all too little at the Federal level, and probably are doing all too little at most of the State levels with regard to businesses that start up. Businesses do benefit, up and down Main Street, if the farmers make money. Eventually, it comes in and helps the retail merchants.

But I think we have got to address this problem a little more directly than we have in the past with regard to the assistance of business.

What this act does, and others, is to try and provide some money, basically working through the States, for reduced loan rates on capital investment mortgages, and to take some of the basic benefits to attract industry that we have used very successfully before in Nebraska and elsewhere. So it is expansion upon that theory, and as I took it, your main message here today, Dr. Koepke, was that this was the vital need as far as your view of what is necessary to help rural America.

Dr. KOEPKE. I think to, you know, pull it all together—and I am sorry, I do not know who made the comment down the table—but basically, a comment was made that we have had a farm program for a number of years, but there is really a difference, in my mind, between a farm program, and a program to help revitalize rural America.

Although there is a logical connection between the two because the money that is going to the producer is ultimately being spent in the community, you still have a whole world of people in rural America, that their life style, their very existence is tied to a community, and they are not directly tied to that farm subsidy.

And we need to worry about these people. We need to worry about health care for them. We need to worry about infrastructure for their communities, and, most of all, we need to worry about providing jobs to keep some young people in those communities.

And if we fail to do that, if we fail, collectively, to provide jobs for young people in rural America, we have a crisis on our hands in that as older people pass on and communities empty out, there will be more and more burden placed on the property that is still there to pay for what local political subdivisions do, namely, government services, education, and county services.

Senator EXON. I would just like to say, in conclusion, Mr. Chairman—and I think you for your consideration—I thank all of you for being here, also. Dr. Koepke's institution, Kearney College, has about 9,000 students, and they are one of the fastest-growing institutions of higher learning in our State.

They have expanded. They practice what they preach out there. They have expanded their curriculum to include many new and innovative things that are generally not taught in colleges, and that is that they are heavily involved in aviation development today.

The specific trading of FAA-certified people going right into our towers, into our collision-avoidance system, and they even have some ideas to expand that further with providing courses perhaps that would fill the vacuum for training pilots, that is the critical issue as far as the nature is concerned in the future.

That is the kind of thinking we need out there, and we congratulate Kearney State College for its long-range view on these problems, and doing something about the problems you have identified here today.

Thank you all for being here, and thank you, Mr. Chairman.

Mr. **Bergland**. Mr. Chairman, could I add something to what Mr. Koepke said in response to the Senator's question?

Chairman **Chiles**. Certainly.

Mr. **Bergland**. There are 2.2 million farms in the United States, as defined by census. One and a half million of those farms are small part-timers. They actually lost money last year by census reports, but they had off-farm jobs, and a $20,000 salary per family. As long as the job lasts they will stay. When the job closes they are gone.

Senator **Exon**. Good point.

Chairman **Chiles**. Do you have further questions?

Senator **Sanford**. Well, I think that we have about worn them out, but let me ask Dr. Tweeten, though, to elaborate just a little bit on your wage supplement. I have not heard that proposal put quite that way before.

Dr. **Tweeten**. Well, as I indicated, the Federal Government would pay some proportion of the difference between a target wage of, let's say, $6 an hour, and whatever the employee could get from the employer.

So say if that employee could only get $2 an hour because he is a marginal employee, a disadvantaged person, the Federal Government then would pay half the difference between $2 and $6 an hour, or another $2 an hour, to bring the total wage to $4 an hour.

If this individual worked 2,000 hours a year, income would be $8,000 a year. If there were two persons in the family on this system, that would mean a total income of $16,000. It would lift the family out of poverty.

It would allow disadvantaged, marginal workers—and unfortunately, this country has many of those people—to be hired. They could find work.

It would allow employers to hire them without losing money. It would increase the employment in this country. It would reduce the unemployment. At tempting alternative is to raise the minimum wage to help disadvantaged workers. That in fact puts disadvantaged workers out of work. So it accomplishes the opposite of what is intended.

Senator **Sanford**. Wouldn't a whole lot of advantaged workers quickly get declared disadvantaged workers?

Dr. TWEETEN. There is always competition with this system. That is, the worker who can get the highest wage from an employer makes the most money with that wage supplement. So there is always an incentive to try to get a higher wage from the employer which reduces the subsidy.

Furthermore, the employers have an advantage in competing for the best worker. There would be competition for these people. That tends to hold up wages also. So the subsidy is divided between the employer. It goes to the employee. And it is one of the few programs that targets on disadvantaged people, and yet can increase national income and employment. Any other welfare reform that I can think of actually decreases real national income.

Senator SANFORD. Has any material much been published on this?

Dr. TWEETEN. Well, of course I have some. I would be happy to send it to the committee.

Senator EXON. This is an interesting thought but it seems to me that there is a great many slips between the idea and the actuation of it. Thank you, Mr. Chairman. I do not have anything else. I would like to thank everybody.

Chairman CHILES. Thank you, sir. I want to point out, Mr. Secretary, that while you were the Secretary of Agriculture, you conducted a major study on the future of rural America and farms, and so this is an interest that you have had for a long time.

The 1987 Budget Reconciliation Bill contained a provision which allowed utilities to contribute to economic development through a cushion of credit program.

What is the status of that program and can you tell me how many utilities have indicated their interest in it, and what types of rural development will be supported by that?

Mr. BERGLAND. There were two provisions that came out of that amendment. One was a cushion of credit provision which the REA is now in the process of implementing. The rules are not yet published. We are told they should be out in about 2 weeks.

We do not know how extensive that program will be supported, but we have hopes for it. The other one is an authority that would allow a cooperative to use up to 15 percent of its own plant assets for development purposes.

Those rules, similarly, are being published. We expect that that will free up $2.2 billion in private investment for local community development.

Chairman CHILES. Do you think that they will be utilized to that extent?

Mr. BERGLAND. Not to that extent perhaps right away, because we are going to urge persons and cooperatives to be very careful about this so that the work is effective.

It will take a couple of years to build it up.

Chairman CHILES. Governor, you have been a successful businessman for over 30 years. I know you built your lumber company up from a small business to where it employs over 200 or 300 people.

Drawing on that experience, could you discuss for me the importance of that skilled labor force, and access to affordable capital, and the importance of natural resource industries to rural America.

Mr. JORDAN. Mr. Chairman, even more so today than back over the last 30 years, human resource investment is critical, and we have the problem in North Carolina, and so many areas now, that we have low unemployment, and yet we have 1.5 million people in North Carolina without a high school diploma, almost a fourth of our population.

We are finding that the problem today is, in some areas we have markets, we have plant and equipment, and we have the raw material in a lot of instances, but we have more trouble finding the qualified labor.

Fifteen years ago, 80 percent of the people in Jordan Lumber picked up a piece of lumber. Today, nobody picks up a piece of lumber. They operate computers and lasers, and towers, and things of that nature. So it is even more critical today and we are trying to address that, and need Federal help in the area of illiteracy, support, those programs that we can reach out and pull the people out that are already out there, and particularly in education where we start trying to deal with dropout areas.

So we are trying to do some new things in North Carolina with that right now. I made a proposal on that this week in fact.

As far as the natural resources are concerned, in North Carolina the main industry is the wood industry which includes furniture as the second-largest industry in the State, and it is vital. Our State not only gets dollars from the trees but it also is qualify of life that is affected by our trees and our water.

So we are very anxious to continue to see Federal support in the form of the FIP program, and things that are going on now, and those other Federal programs that have done a lot, and the national forest policy means a lot to North Carolina.

So while those things may not be right on the table before this committee, they are things that, as you look at rural North Carolina, and the rural South in particular, those policies do impact the job creation that we have available out there.

Mr. JORDAN. Access to capital—I'm one of those people, I would not be sitting here today except for Small Business Administration programs. I'd be back there, the old story, you know, if you don't like somebody, you give them one sawmill; if you really hate them, you give them two sawmills.

Well, I'm one of those who took a sawmill, and thanks to a Small Business Administration loan in 1961, and another one in 1964, I kind of got over the hurdle. So I know how important the Federal Government can be in helping small businesses get help at the right time.

Today, we need innovative programs. On the State level we're proposing seed capital funds, and venture capital funds. Most of that venture capital money that's out there in America today is going to four States, and that's California, Texas, Florida and Massachusetts. My State is getting only 1 percent.

We need some ways to give tax credits. And North Carolina is trying to do that on its own, but it would be nice if the Federal Government would look at that.

So I guess of the three areas—capital, natural resource support, and labor force development, the most critical thing is labor force development, and the most critical of that really comes down to education.

Chairman Chiles. How many small businesses do you see that have failed because of lack of guidance, expertise in management problems, especially in regard to how they handle their capital and how they access the capital markets?

Mr. Jordan. Part of the problem of course is a basic problem that one out of every four ninth graders in North Carolina is going to drop out of school before they finish high school. It's a problem that we have.

A lot of people out there go into business and are not really qualified to go in business on the one hand, and the other hand is that there's another figure that we've come across and lasts for awhile, and that is that 80 percent of small businesses that start fail.

Yet, if you can use this incubator concept—there's several people I've talked to about it here today—and we're doing that in North Carolina. The TDA, the Technological Development Authority there is sponsoring, and we have private incubators. You reverse those numbers. Eighty percent of those businesses that start out on incubators are successful, and that's because of the training they get.

We also are trying a new program we're going to replicate in the State called Tech Prep where now you have college prep courses for those in high school, ninth through the twelfth grade. We felt we'd have a pilot program in Richmond Technical Institute where we also set up a Tech Prep course. So those students in the ninth grade or eighth grade sign up for a course they want to take, they do things they're more excited about. And part of that, I guess, is into the business area.

We have a course called entrepreneurship in the senior year in that. It's not a costly thing, but something innovative to try to make things happen.

We found that people stay in school for a lot of reasons, and we want them to stay in school. Two days ago, part of my proposal was that we say to people who go to school, and you can get your driver's license in North Carolina at age 16, that's a provisional driver's license until you're 18.

I proposed that we say to those people if they want their driver's license before age 18, they stay in school. Some of the students don't like that but a lot of the parents think it's a novel idea. We say if you get your driver's license and you finish school, you keep it at age 16. If you drop out of school before you get it, you can't get it till you're 18. If you get it at 16 and then drop out of school, you've got to turn it back in until you're 18 years of age.

Now, people stay in school for a lot of reasons. And we may have to use some of those reasons to get them to do things that they see that they ought to do in that period of time. But I think there are a lot of things, and the Federal Government needs to assist us where they can and be innovative.

I believe with most of the testimony here today, and that is, those things we need to do that are apt to be the most successful have to come from the bottom up. If the local government can do it, they ought to do it. If the State government can do it, they ought to do it. But there are those things where sometimes we just run out of resources, and new federalism has changed the world.

I've been around long enough to—I came up here in 1980 as a legislative leader, chairman of the Senate base Budget Committee, and I was told all the great things it was going to do. I've been around now for 8 years watching it. And what it's done is told us all the great things that we've got to do, not that are going to happen for us.

Chairman CHILES. I think that's true.

Well, we thank you all very much. It was very interesting hearing you. You were very helpful to us.

Mr. JORDAN. Thank you, sir.

[Whereupon, at 4 p.m., the committee adjourned, subject to the call of the Chair.]

II

100TH CONGRESS
1ST SESSION

S. 1729

To promote rural development, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 29 (legislative day, SEPTEMBER 25), 1987

Mr. LEAHY (for himself, Mr. HARKIN, Mr. FOWLER, Mr. HEFLIN, Mr. STAFFORD, Mr. PRYOR, Mr. CONRAD, Mr. DASCHLE, Mr. BURDICK, Mr. SHELBY, Mr. MATSUNAGA, Mr. ROCKEFELLER, Mr. SANFORD, Mr. EXON, and Mr. FORD) introduced the following bill; which was read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

---

A BILL

To promote rural development, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Rural Economy Act of 1987".

(b) TABLE OF CONTENTS.—The table of contents is as follows:

TABLE OF CONTENTS

Page

Sec. 1. Short title; table of contents 1

TITLE I—GENERAL PROVISIONS

Page
Sec. 101. Findings and purposes 2
Sec. 102. Definitions 3
Sec. 103. Rural Development Financing Authority 5
Sec. 104. Authorization of appropriations 5

TITLE II—BUSINESS DEVELOPMENT

SUBTITLE A—GENERAL PROVISIONS

Sec. 201. Credit support 7
Sec. 202. Rural industrialization assistance 9

SUBTITLE B—RURAL DEVELOPMENT LOAN FUND

Sec. 211. Rural development loan fund 21
Sec. 212. Rural development loans 24
Sec. 213. Rural opportunity grants 24

TITLE III—COMMUNITY DEVELOPMENT ASSISTANCE FOR SMALLER COMMUNITIES

Sec. 301. Findings 24

SUBTITLE A—RURAL INFRASTRUCTURE GRANTS

Sec. 311. Program authorization and allocation of funds 25
Sec. 312. Program requirements 27
Sec. 313. Use of grants 29

SUBTITLE B—BASIC COMMUNITY FACILITY NEEDS GRANTS

Sec. 321. Basic community facility needs grants 30

TITLE IV—CAPACITY BUILDING FOR LOCAL DEVELOPMENT

Sec. 401. Local capacity building grants 31
Sec. 402. Rural technology development 33
Sec. 403. One-stop rural financial and technical assistance centers 34

TITLE V—STATE INCENTIVE GRANTS

Sec. 501. State incentive grants 35

TITLE VI—ADMINISTRATION

Sec. 601. Nondiscrimination in programs and activities 37
Sec. 602. Remedies for noncompliance 39
Sec. 603. Reporting requirements 42
Sec. 604. Consultation with other Federal agencies 43
Sec. 605. Historic preservation requirements 44

TITLE I—GENERAL PROVISIONS

SEC. 101. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds that—

(1) the economic well being of smaller communities and rural areas is vital to overall national growth and prosperity;

(2) many rural areas currently suffer from decline triggered by trends in agricultural production and marketing, international developments affecting major resource industries, industrial production, and other causes.

(b) PURPOSES.—It is the purpose of this Act—

(1) to encourage locally-based development initiatives benefiting all segments of the population in small rural communities; and

(2) to ensure that certain basic needs for essential services in rural communities are met.

SEC. 102. DEFINITIONS.

Except as otherwise specifically provided, as used in this Act:

(1) ASSISTANT SECRETARY.—The term "Assistant Secretary" means the Assistant Secretary for the Authority appointed under section 103(b)(1).

(2) AUTHORITY.—The term "Authority" means the Rural Development Financing Authority established under section 103(a).

(3) DEPARTMENT.—The term "Department" means the Department of Agriculture.

(4) INDIAN TRIBE.—The term "Indian tribe" means any Indian tribe, band, group, or nation (including Alaska Indians, Aleuts, and Eskimos) that is considered an eligible recipient under the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450 et seq.).

(5) INTERMEDIARY BORROWER.—The term "intermediary borrower" means a public agency or private nonprofit organization that has as its principal mission the promotion of economic and community development in the area in which it operates.

(6) RURAL AREA.—The term "rural area" shall not include any area in any community that has a population in excess of 20,000 residents.

(7) SECRETARY.—The term "Secretary" means the Secretary of Agriculture.

(8) STATE.—The term "State" means each of the 50 States.

(9) UNIT OF GENERAL LOCAL GOVERNMENT.—The term "unit of general local government" means any city, county, town, township, parish, village, or other general purpose political subdivision of a State.

SEC. 103. RURAL DEVELOPMENT FINANCING AUTHORITY.

(a) In General.—There is established, in the Department, a Rural Development Financing Authority to carry out this Act.

(b) Assistant Secretary.—

(1) Appointment.—The Authority shall be headed by an Assistant Secretary appointed by the President, by and with the advise and consent of the Senate.

(2) Compensation.—Section 5316 of title 5, United States Code, is amended by striking out "Administrator, Farmers Home Administration" and inserting in lieu thereof the following:

"Administrator, Farmers Home Administration, Department of Agriculture.

"Assistant Secretary, Rural Development Financing Authority, Department of Agriculture.".

SEC. 104. AUTHORIZATION OF APPROPRIATIONS.

(a) Credit Support.—To carry out section 201, there are authorized to be appropriated $50,000,000 for fiscal year 1988 and $200,000,000 for each subsequent fiscal year.

(b) Rural Development Loan Fund.—To carry out subtitle B of title II, there are authorized to be appropriated for fiscal year 1988 and each subsequent fiscal year such sums as are necessary to carry out such subtitle.

(c) RURAL INFRASTRUCTURE GRANTS.—To carry out subtitle A of title III, there are authorized to be appropriated $205,000,000 for fiscal year 1988 and each subsequent fiscal year.

(d) BASIC COMMUNITY FACILITY NEEDS GRANTS.—To carry out section 321, there are authorized to be appropriated $25,000,000 for fiscal year 1988 and each subsequent fiscal year.

(e) LOCAL CAPACITY BUILDING GRANTS.—To carry out section 401, there are authorized to be appropriated $25,000,000 for fiscal year 1988 and $50,000,000 for each subsequent fiscal year.

(f) RURAL TECHNOLOGY DEVELOPMENT.—To carry out section 402, there are authorized to be appropriated $10,000,000 for fiscal year 1988 and each subsequent fiscal year.

(g) ONE-STOP RURAL FINANCIAL AND TECHNICAL ASSISTANCE CENTERS.—To carry out section 403, there is authorized to be appropriated $6,000,000 for fiscal year 1988.

(h) STATE INCENTIVE GRANTS.—To carry out section 501, there are authorized to be appropriated $30,000,000 for fiscal year 1988 and each subsequent fiscal year.

TITLE II—BUSINESS DEVELOPMENT

Subtitle A—General Provisions

SEC. 201. CREDIT SUPPORT.

(a) ESTABLISHMENT.—The Assistant Secretary shall establish a program under which interest rate subsidies are provided to lenders for loans made to private business enterprises located in rural areas.

(b) ELIGIBILITY.—To be eligible to receive assistance under this section, a private business enterprise must—

(1) be (or become) a borrower of an existing or new loan (including a direct Federal loan, Federally insured loan, Federally guaranteed loan, or a loan made by a private commercial lender without any Federal involvement) with an interest rate of 8 percent or more;

(2) be a private business enterprise that has operated for less than 5 years or that otherwise demonstrates a capability to generate new jobs;

(3) demonstrate a capability to generate a high proportion of jobs for residents of the local rural area that do not require post-secondary education; and

(4) be located in a rural area that exhibits severe economic distress, as measured by employment, income, business activity, or other economic indicators.

(c) INTEREST SUBSIDIES.—If a borrower of a loan applies to a lender for an interest subsidy, the lender (with the approval of the Assistant Secretary) determines that the borrower meets the eligibility criteria prescribed in subsection (b), and the Secretary, lender, and borrower agree to participate in the interest subsidy program—

(1) the Assistant Secretary shall make payments to the lender equal to the amount obtained by multiplying—

(A) 50 percent of the difference between the prevailing interest rate in the area on a loan for a similar amount, maturity, and purpose (as determined by the Assistant Secretary) and 8 percent; and

(B) the principal amount outstanding on the loan; and

(2) the lender shall charge the borrower an interest rate for the loan that does not exceed the prevailing interest rate in the area described in paragraph (1)(A), less the amount provided by the Assistant Secretary under this section.

(d) CONTRACTS.—An interest subsidy shall be provided under this section for a loan made by a lender to a borrower by means of an annual, renewable contract entered into among the Assistant Secretary, lender, and borrower.

SEC. 202. RURAL INDUSTRIALIZATION ASSISTANCE.

(a) LOANS FOR PRIVATE BUSINESS ENTERPRISES.—

(1) LOANS.—The Assistant Secretary shall make and insure loans to public, private, or cooperative organizations organized for profit or nonprofit, to Indian tribes (including tribal entities recognized by the State in which the entities are located), or to individuals for the purposes of—

(A) improving, developing, or financing business, industry, and employment and improving the economic and environmental climate in rural areas, including pollution abatement and control;

(B) the conservation, development, and use of water for aquaculture purposes in rural areas; and

(C) reducing the reliance on nonrenewable energy resources by encouraging the development and construction of solar energy systems, including the modification of existing systems, in rural areas.

(2) GUARANTEES.—Such loans, when originated, held, and serviced by other lenders, may be guaranteed by the Assistant Secretary under this subsection.

(3) LIMITATION.—No loan may be made, insured, or guaranteed under this subsection that exceeds a principal amount of $25,000,000.

(4) DEFINITIONS.—As used in this subsection:

(A) ACQUACULTURE.—The term "aquaculture" means the culture or husbandry of aquatic animals or plants by private industry for commercial purposes including the culture and growing of fish by private industry for the purposes of creating or augmenting publicly owned and regulated stocks of fish.

(B) SOLAR ENERGY.—The term "solar energy" means energy derived from sources (other than fossil fuels) and technologies included in the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901 et seq.).

(b) JOINT LOANS FOR PRIVATE BUSINESS ENTERPRISES.—

(1) IN GENERAL.—The Assistant Secretary shall participate in joint financing to facilitate development of private business enterprises in rural areas with the Economic Development Administration, the Small Business Administration, the Department of Housing and Urban Development, other Federal and State agencies, and private and quasi-public financial institutions, through joint loans to applicants eligible under subsection (a) for the purpose of improving, developing, or financing business, industry, and employment and

improving the economic and environmental climate in rural areas, including the development, construction, or acquisition of land, buildings, plants, equipment, access streets and roads, parking areas, utility extensions, necessary water supply and waste disposal facilities, refining, services, and fees.

(2) TRANSFER OF EMPLOYMENT OR BUSINESS ACTIVITIES.—

(A) IN GENERAL.—Except as provided in subparagraph (B), no financial or other assistance shall be extended under this section or section 304(b) and 312(b) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1924(b) or 1942(b)) that is calculated to or is likely to result in the transfer from one area to another of any employment or business activity provided by operations of the applicant.

(B) EXCEPTIONS.—Subparagraph (A) shall—

(i) not apply to cases in which such assistance does not exceed $1,000,000;

(ii) not apply to cases in which direct employment will not be increased by more than 50 employees; or

(iii) not be construed to prohibit assistance for the expansion of an existing business entity through the establishment of a new branch, affiliate, or subsidiary of such entity if the establishment of such branch, affiliate, or subsidiary will not result in an increase in unemployment in the area of original location or in any other area where such entity conducts business operations unless there is reason to believe that such branch, affiliate, or subsidiary is being established with the intention of closing down the operations of the existing business entity in the area of its original location or in any other area where it conducts such operations.

(3) INSUFFICIENT DEMAND FOR GOODS AND SERVICES.—

(A) IN GENERAL.—Except as provided in subparagraph (B), no financial or other assistance shall be extended under this section or section 304(b) or 312(b) of the Consolidated Farm and Rural Development Act that is calculated to or likely to result in an increase in the production of goods, materials, or commodities, or the availability of services or facilities in the area, when there is not sufficient demand for such goods, materials, commodities, services, or facilities, to employ the efficient capacity of existing competitive commercial or industrial enterprises.

(B) EXCEPTIONS.—Subparagraph (A) shall not apply—

(i) to cases in which such assistance does not exceed $1,000,000;

(ii) to cases in which direct employment will not be increased by more than 50 employees; or

(iii) if such financial or other assistance will not have an adverse effect on existing competitive enterprises in the area.

(4) CERTIFICATION OF NONCOMPLIANCE.—

(A) IN GENERAL.—Except as provided in subparagraph (C), no financial or other assistance shall be extended under this section or section 304(b) or 312(b) of the Consolidated Farm and Rural Development Act if the Secretary of Labor certifies within 30 days after the matter has been submitted to the Secretary of Labor by the Assistant Secretary that paragraph (2) or (3) have not been complied with.

(B) SYSTEM.—The Secretary of Labor shall, in cooperation with the Assistant Secretary, develop a system of certification that will ensure the expeditious processing of requests for assistance under this section.

(C) EXCEPTIONS.—This paragraph shall not apply to cases in which—

(i) such assistance does not exceed $1,000,000; or

(ii) direct employment will not be increased by more than 50 employees.

(5) PRIOR STATE APPROVAL.—No loan authorized to be made under this section shall require or be subject to the prior approval of any officer, employee, or agency of any State.

(6) MAXIMUM INVESTMENT REQUIREMENT.—No loan commitment issued under this section or section 304 or 312 of the Consolidated Farm and Rural Development Act shall be conditioned on the applicant investing in excess of 10 percent in the business or industrial enterprise for which purpose the loan is to be made unless the Assistant Secretary determines there are special circumstances that necessitate an equity investment by the applicant greater than 10 percent.

(7) CERTIFICATES OF BENEFICIAL OWNERSHIP.—

(A) ISSUANCE.—No provision of law shall prohibit issuance by the Assistant Secretary of certificates evidencing beneficial ownership in a block of notes insured or guaranteed under this section, the Consolidated Farm and Rural Development Act (7 U.S.C. 1921 et seq.), or title V of the Housing Act of 1949 (42 U.S.C. 1471 et seq.).

(B) SALE OF ASSETS.—Any sale by the Assistant Secretary of such certificates shall be treated as a sale of assets for the purpose of title 31, United States Code.

(C) EXEMPTION FROM SEC LAWS.—Any security representing beneficial ownership in a block of notes guaranteed or insured under this section, the Consolidated Farm and Rural Development Act, or title V of the Housing Act of 1949 issued by a private entity shall be exempt from laws administered by the Securities and Exchange Commission, except sections 17, 22, and 24 of the Securities Act of 1933 (15 U.S.C. 77q, 77v, and 77x), except that the Assistant Secretary shall require that the issuer—

(i) place such notes in the custody of an institution chartered by a Federal or State agency to act as trustee; and

(ii) provide such periodic reports of sales as the Assistant Secretary considers necessary.

(c) CONSTRUCTION OR IMPROVEMENT OF SUBTERMINAL FACILITIES.—

(1) LOANS.—

(A) IN GENERAL.—The Assistant Secretary shall insure and guarantee loans under this section to public, private, or cooperative organizations organized for profit or nonprofit, or to individuals, for the purpose of constructing or improving subterminal facilities if—

(i) the construction or improvement of such facilities is consistent with the appropriate approved State or regional plans and the recommendations of the local plan review commission established pursuant to the Agricultural Subterminal Facilities Act of 1980 (7 U.S.C. 3701 et seq.);

(ii) the Assistant Secretary determines that the ownership and operation of such subterminal facilities will result in the efficient and competitive movement of bulk agricultural commodities and will return increased benefits to the local producers served by such facilities; and

(iii) the Assistant Secretary determines that the rail carrier designated to provide service to any such facility will be able to provide adequate service.

(B) USES.—Such loans may be made available for purchase of rail rolling stock (including locomotives), motor trucks, barges, and other bulk agricultural commodities transport equipment to be used in conjunction with the operation of subterminal facilities.

(2) ELIGIBILITY.—The Assistant Secretary may only insure or guarantee loans under this subsection if the Assistant Secretary finds that an applicant is unable to obtain credit from commercial lending institutions (including specialized lending institutions established to provide credit to agricultural producers) on reasonable terms and conditions.

(3) PREFERENCE.—In order to preserve local ownership and control of agricultural transportation facilities, the Assistant Secretary shall give preference under this subsection to existing agricultural elevator

operators and local producers in areas in which subterminal facilities are proposed to be located.

(4) STATE ALLOCATION.—

(A) IN GENERAL.—The total amount of loan authority made available for use for the purpose of this subsection for any fiscal year shall be allocated by the Assistant Secretary on the basis of need among those States that have approved State or regional plans as defined in the Agricultural Subterminal Facilities Act of 1980. Such allocation shall be based on such formula as the Assistant Secretary shall prescribe by regulation.

(B) REALLOCATION OF UNUSED AUTHORITY.—Any loan authority available for use in any State in any fiscal year that is not used by such State shall be reallocated, to the extent practicable, among other States eligible for the assistance provided under this section, in accordance with the same formula developed by the Assistant Secretary for the initial allocation of loan authority under this subsection.

(5) DEFINITION.—As used in this subsection, the term "subterminal facility" has the same meaning given such term in section 3(4) of the Agricultural Subterminal Facilities Act of 1980 (7 U.S.C. 3702(4)).

(6) REGULATIONS.—The Assistant Secretary shall establish such rules and regulations as may be necessary to implement this subsection.

(d) CONFORMING AMENDMENTS.—

(1) Section 310B of the Consolidated Farm and Rural Development Act (7 U.S.C. 1932) is amended—

(A) by striking out subsection (a);

(B) in subsection (b), by striking out the subsection designation; and

(C) by striking out subsections (c), (d), (e), and (f).

(2)(A) Section 306(a)(7) of such Act (7 U.S.C. 1926(a)(7)) is amended by striking out "sections 304(b), 310B, and 312(b), (c), and (d)" and inserting in lieu thereof "sections 304(b), 310B, and 312(b), (c), and (d) of this title and sections 202 and 402 of the Rural Economy Act of 1987".

(B) Section 307(a) of such Act (7 U.S.C. 1927(a)) is amended—

(i) in paragraph (4), by striking out "sections 304(b), 306(a)(1), and 310B of this title" and inserting in lieu thereof "sections 304(b) and 306(a)(1) of this title and section 202 of the Rural Economy Act of 1987"; and

(ii) in paragraph (6)(B), by striking out clauses (vi) and (vii) and inserting in lieu thereof the following new clauses:

"(vi) section 202(a)(1)(A) of the Rural Economy Act of 1987;

"(vii) subsections (b) and (c) of section 202 of such Act;".

(C) Section 309A of such Act (7 U.S.C. 1929a) is amended—

(i) in the second sentence of subsection (a), by striking out "sections 304(b), 306(a)(1), 306(a)(14), 310B, and 312(b)" and inserting in lieu thereof "sections 304(b), 306(a)(1), 306(a)(14), and 312(b) of this title and section 202 of the Rural Economy Act of 1987"; and

(ii) in subsection (g)(8), by striking out "sections 306(a) and 310B of this title" and inserting in lieu thereof "section 306(a) and 310B of this title and sections 202 and 402 of the Rural Economy Act of 1987".

(D) Section 333(b) of such Act (7 U.S.C. 1983(b)) is amended by striking out "310B,".

(E) The first sentence of section 344 of such Act (7 U.S.C. 1992) is amended by striking out "section 304(b), 306(a)(1), 310B, 312(b), or 312(c)" and inserting in lieu thereof "section 304(b), 306(a)(1), 312(b), or 312(c) of this title or section 202 of the Rural Economy Act of 1987".

Subtitle B—Rural Development Loan Fund

SEC. 211. RURAL DEVELOPMENT LOAN FUND.

(a) ESTABLISHMENT.—There is established in the Treasury a revolving fund called the Rural Development Loan Fund. The capital of the revolving fund shall remain available until expended.

(b) PURPOSES.—The Rural Development Loan Fund may be used to make—

(1) rural development loans in accordance with section 212; and

(2) rural opportunity grants in accordance with section 213.

(c) TRANSFER OF EXISTING FUNDS.—Funds in, appropriated to, repaid, or transferred to the Rural Development Loan Fund under section 1323(b) of the Food Security Act of 1985 (7 U.S.C. 1932 note) (as it existed before the amendment made by subsection (e)(1)) shall be deposited in the Rural Development Loan Fund established under this section and shall continue to be available to carry out the purposes of such fund.

(d) SOURCE OF FUNDS.—The Rural Development Loan Fund shall consist of—

(1) all funds deposited in the Fund pursuant to subsection (c); and

(2) such amounts as may be deposited in such fund by the Assistant Secretary out of funds made available from appropriations for purposes of carrying out this section.

(e) ADMINISTRATION.—The Assistant Secretary shall administer the Rural Development Loan Fund.

(f) CONFORMING AMENDMENTS.—

(1) Section 1323 of the Food Security Act of 1985 (7 U.S.C. 1932 note) is repealed.

(2) Section 623(c) of the Omnibus Budget Reconciliation Act of 1981 (42 U.S.C. 9812(c)) is amended—

(A) by striking out paragraph (1) and inserting in lieu thereof the following new paragraph:

"(1) To carry out the lending and guaranty functions authorized under this part, there shall be established a Development Loan Fund consisting of a revolving fund called the Community Development Loan Fund. The capital of the revolving fund shall remain available until expended.";

(B) by striking out paragraph (2); and

(C) by redesignating paragraph (3) as paragraph (2).

(3) Section 407 of the Human Services Reauthorization Act of 1986 (42 U.S.C. 9812a) is amended by striking out "section 623(c)(1) of the Omnibus Budget Reconciliation Act of 1981 (42 U.S.C. 9812(c)(1))" each place it appears in subsections (a) and (b)(1) and inserting in lieu thereof "section 211 of the Rural Economy Act of 1987".

(4) Section 633 of the Omnibus Budget Reconciliation Act of 1981 (42 U.S.C. 9822) is amended by striking out the first sentence.

(5) Section 681(a)(2) of the Omnibus Budget Reconciliation Act of 1981 (42 U.S.C. 9910(a)(2)) is amended—

(A) by striking out subparagraph (B); and

(B) by redesignating subparagraphs (C) through (F) as subparagraphs (B) through (E), respectively.

(6) The amendments made by this subsection shall not apply to loans, grants, or guarantees made before October 1, 1987.

(g) EFFECTIVE DATE.—This section and the amendments made by this section shall become effective on October 1, 1987.

SEC. 212. RURAL DEVELOPMENT LOANS.

The Assistant Secretary may make loans, from the Rural Development Loan Fund established under section 211, to intermediary borrowers for the purpose of establishing revolving loan funds. Intermediary borrowers shall loan money from the revolving loan funds to profit or nonprofit local businesses to improve business, industry, and employment opportunities in rural areas.

SEC. 213. RURAL OPPORTUNITY GRANTS.

The Assistant Secretary may make grants, from the Rural Development Loan Fund established under section 211, to public or private nonprofit organizations, operating in rural areas, whose principal mission is to improve business, industrial, and employment opportunities, particularly assisting low-income rural people and economically distressed rural communities. Such assistance may be used for financing new business ventures, community improvements, capital improvements, infrastructure development, and other activities the Assistant Secretary considers consistent with the purpose of this section.

TITLE III—COMMUNITY DEVELOPMENT ASSISTANCE FOR SMALLER COMMUNITIES

SEC. 301. FINDINGS.

Congress finds that the availability of suitable infrastructure (including water and wastewater systems and other types of public facilities) is essential to the economic growth of smaller communities and rural areas and to the well-being of the residents of such communities and areas.

Subtitle A—Rural Infrastructure Grants

SEC. 311. PROGRAM AUTHORIZATION AND ALLOCATION OF FUNDS.

(a) PROGRAM AUTHORIZATION.—The Assistant Secretary shall make grants to States and other eligible entities in accordance with this subtitle to provide funds for the development of local infrastructure in eligible communities in rural areas.

(b) INDIAN AND TERRITORY ALLOCATION.—

(1) IN GENERAL.—Not less than 3 percent of the funds made available to carry out this subtitle shall be used to provide grants to Indian tribes, the Commonwealth of Puerto Rico, Guam, the Virgin Islands of the United States, American Samoa, the Northern Marianas Islands, and the Trust Territory of the United States.

(2) ADMINISTRATION.—The Assistant Secretary shall administer the program for eligible entities referred to in paragraph (1) through special regulations and administrative procedures that take into account

the special conditions within the jurisdiction of the entities.

(c) STATE ALLOCATION.—

(1) IN GENERAL.—Funds remaining after the allocation required by subsection (b) shall be distributed among the States in accordance with this paragraph.

(2) EQUAL SHARES PORTION.—Of the funds described in paragraph (1), 25 percent of the funds shall be distributed equally among the States.

(3) NEEDS PORTION.—

(A) IN GENERAL.—Of the funds described in paragraph (1), 75 percent of the funds described in paragraph (1) shall be distributed among the States in accordance with this paragraph.

(B) STATE SHARES.—Subject to subparagraph (C), the share of each State shall be equal to the product obtained by multiplying—

(i) the average of—

(I) the State's percentage share of residents in rural areas of all States; and

(II) the State's percentage share of residents in rural areas of all States with an income that does not exceed the poverty line (as defined in section

673(2) of the Community Services Block Grant Act (42 U.S.C. 9902(2)));

(ii) the quotient obtained by dividing—

(I) the average nonmetropolitan, nonfarm, per capita payroll in all States; by

(II) the average nonmetropolitan, nonfarm, per capita payroll in the State; and

(iii) the quotient obtained under clause (ii).

(C) ADJUSTMENT.—The percentage share of each State of the funds made available under subparagraph (B) shall be proportionately adjusted so that the total share of all States equals 100 percent.

(D) DEFINITION OF RURAL AREA.—For purposes of this paragraph, the term "rural are" means an area that—

(i) has a population of less than 2,500 inhabitants; and

(ii) is outside an urbanized area.

SEC. 312. PROGRAM REQUIREMENTS.

(a) SMALL RURAL COMMUNITIES.—A State shall make available not less than 96 percent of the funds obtained under this subtitle for programs and projects serving communities within the State with a population that does not exceed 5,500 residents.

(b) DISTRIBUTION OF FUNDS FOR LOCAL PROJECTS.—

(1) DEVELOPMENT.—Each State receiving grants under this subtitle shall develop, through a planning system that provides for the involvement of the public living in rural areas, a system for distributing funds for local projects.

(2) REQUIREMENTS.—The system developed under paragraph (1) shall—

(A) take into account the job-producing potential of projects and the basic needs of communities; and

(B) provide a priority for needs in communities with concentrations of low-income residents, including communities that lack facilities essential to public health and safety.

(3) DESCRIPTION.—A description of the priority system and other requirements for the distribution of funds under this subtitle shall be published by the State and widely distributed by the State among entities public and private nonprofit agencies in the communities that are eligible to obtain funds under this subtitle.

(c) PUBLIC AND PRIVATE NONPROFIT PROJECTS.—The State priority system and other requirements for the distribution of funds under this subtitle shall make the funds available to units of general local government and to other types of public bodies and private nonprofit organizations for infrastructure projects that the units, bodies, and organizations are permitted to own, manage, or otherwise operate.

(d) ANNUAL REPORT.—Each State receiving grants under this subtitle shall provide an annual report to the Assistant Secretary that contains—

(1) a description of the priority system used by the State to select projects for assistance during the preceding year;

(2) a list of projects in the State during the preceding year;

(3) a description of the anticipated benefits from each such project; and

(4) such other information as the Assistant Secretary requires.

SEC. 313. USE OF GRANTS.

(a) PERMITTED USES.—Grants provided to States under this subtitle may be used to—

(1) provide funding for projects for the development, construction, or rehabilitation of local infrastructure in eligible communities in rural areas; and

(2) provide technical and management assistance to strengthen local capacity to effectively plan and manage such projects.

(b) PROHIBITED USE.—Grants provided to States under this subtitle may not be used to provide funding for housing-related activities.

(c) ADMINISTRATIVE COSTS.—A State may not use more than 4 percent of the amount of grant provided to the State under this subtitle for administrative costs incurred by the State in carrying out this subtitle.

Subtitle B—Basic Community Facility Needs Grants

SEC. 321. BASIC COMMUNITY FACILITY NEEDS GRANTS.

(a) IN GENERAL.—The Assistant Secretary, in cooperation with the Administrator of the Farmers Home Administration, shall make grants to associations described in section 306(a)(1) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1926(a)(1)) to test cost-effective methods of meeting the basic needs of residents of rural areas who do not have and cannot afford safe drinking water and wastewater disposal.

(b) USE OF GRANTS.—Such grants may include financing for—

(1) costs associated with the development or improvement of individual or small, multiuser drinking water and wastewater facilities;

(2) costs associated with enabling such rural residents to connect to community water and wastewater systems, such as the payment of connection fees;

(3) costs associated with improving the operation, maintenance, or management of small community water and wastewater systems that currently are unable to provide safe drinking water and wastewater disposal at affordable rates to such rural residents; or

(4) costs associated with implementing other alternatives to meeting the basic drinking water and wastewater disposal needs of such rural residents.

TITLE IV—CAPACITY BUILDING FOR LOCAL DEVELOPMENT

SEC. 401. LOCAL CAPACITY BUILDING GRANTS.

(a) IN GENERAL.—The Assistant Secretary shall make grants to public and nonprofit private institutions for the purpose of stimulating economic growth and diversification in communities in rural areas affected by recent declines or chronic underdevelopment in basic economic sectors, such as agriculture. The Assistant Secretary may make grants under this section in conjunction with financial assistance made available under section 201.

(b) USE OF GRANTS.—Grants under this section may be used for activities consistent with the purposes of this section, including activities to—

(1) identify business opportunities that will use local economic and human resources;

(2) identify, train, and provide technical assistance to existing or prospective local entrepreneurs and managers;

(3) mobilize capital from within and outside local communities to stimulate the formation and expansion of local business activities; and

(4) establish support centers to provide research, training, and technical assistance to local projects through such approaches as peer-to-peer training by established development entities.

(c) MULTIYEAR GRANTS.—The Assistant Secretary may make grants under this section on a multiyear basis.

(d) ELIGIBLE PROJECTS.—Grants may be made under this section only for a project intended to provide direct benefit to a rural area. The Assistant Secretary shall give preference to projects serving areas with the most serious economic distress.

(e) INDIVIDUAL GRANT LIMITATION.—

(1) IN GENERAL.—Any grant under this section may not exceed 75 percent of the costs of implementing the project covered by the grant.

(2) WAIVER.—The Assistant Secretary may waive the limitation established in paragraph (1) in the case of any project serving a rural community in which the average income level does not exceed the greater of—

(A) 80 percent of the nonmetropolitan median household income within the State in which the project is located; or

(B) the poverty line (as defined in section 673(2) of the Community Services Block Grant Act (42 U.S.C. 9902(2))).

SEC. 402. RURAL TECHNOLOGY DEVELOPMENT.

(a) GRANTS.—The Assistant Secretary shall make grants under this section to public and nonprofit private institutions for the purpose of enabling the institutions to establish and operate centers of rural technology development that have, as a primary objective, the improvement of the economic condition of rural areas by promoting the development (through technological innovation and adaptation of existing technology) and commercialization of (1) new products that can be produced in rural areas, and (2) new processes that can be used in such production.

(b) AWARDS.—Grants under this section shall be made on a competitive basis. In making grants, the Assistant Secretary shall give preference to applicants that will establish centers for rural technology in areas that have—

(1) few industries and agribusinesses;

(2) high levels of unemployment;

(3) high rates of out-migration of people, business, and industries; and

(4) low levels of per capita income.

(c) REGULATIONS.—The Assistant Secretary shall issue regulations implementing this section that shall include provisions for the monitoring and evaluation of the rural technology development activities carried out by institutions that receive grants under this section.

SEC. 403. ONE-STOP RURAL FINANCIAL AND TECHNICAL ASSISTANCE CENTERS.

(a) PURPOSE.—It is the purpose of this section to demonstrate the efficiency of one-stop rural financial and technical assistance centers for promoting community and economic development and providing a portfolio of financial and technical assistance services to new and expanding rural businesses.

(b) GRANTS.—The Assistant Secretary shall make grants to public agencies and private nonprofit organizations to establish three one-stop rural financial and technical assistance centers.

(c) EXPERIENCE OF RECIPIENTS.—In selecting entities for grants under this section, the Assistant Secretary shall take into account the experience of the entity in providing loan guarantees, interest rate subsidies, grants, and technical assistance to businesses in rural areas.

(d) LOCATION OF RECIPIENTS.—In selecting entities for grants under this section, the Assistant Secretary shall take into account the economic distress of a rural area in which an entity is located.

TITLE V—STATE INCENTIVE GRANTS

SEC. 501. STATE INCENTIVE GRANTS.

(a) PURPOSE.—It is the purpose of this section to encourage State initiatives in rural community development by augmenting existing State financial assistance programs and providing a Federal incentive for States to develop new programs to strengthen the economies of rural areas.

(b) GRANTS.—The Assistant Secretary shall make grants to States for the purpose of funding the Federal matching contribution for State government programs to promote rural development.

(c) FEDERAL MATCHING CONTRIBUTION.—The Assistant Secretary shall match on a dollar-for-dollar basis State appropriated funds for State government programs to promote rural development.

(d) MAINTAINANCE OF EFFORT.—

(1) DETERMINATION OF EXISTING EFFORT.—The Assistant Secretary shall determine the level of funding for State government programs to promote rural development for the preceding fiscal year and the second preceding fiscal year.

(2) INELIGIBILITY.—A State shall not be eligible for funds under this section for a fiscal year if the level of funding for State government programs to promote rural development for the preceding fiscal year is less the level of such funding for the second preceding fiscal year.

(3) WAIVER.—The Assistant Secretary may waive, for one fiscal year only, the requirements of this paragraph (2), if the Assistant Secretary determines that such a waiver would be equitable due to exceptional or uncontrollable circumstances such as a natural disaster or a precipitous and unforeseen decline in the financial resources of the State.

(e) ELIGIBILITY.—To be eligible to receive funding under this section, a program must—

(1) provide grants or other financial assistance on subsidized terms to local projects;

(2) support the development of private business enterprises, including the development of new or expanded business enterprises, infrastructure used directly by business enterprises, or financing for business enterprises; and

(3) operate exclusively in a rural area.

(f) LIMITATION ON GRANTS TO A STATE.—The amount of Federal matching contributions provided to an individual State in any fiscal year under this section may not exceed 10 percent of the amount of Federal matching contributions provided to all States in the fiscal year under this section.

TITLE VI—ADMINISTRATION

SEC. 601. NONDISCRIMINATION IN PROGRAMS AND ACTIVITIES.

(a) PROHIBITED CONDUCT.—No person in the United States shall on the ground of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this Act. Any prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975 (42 U.S.C. 6101 et seq.) or with respect to an otherwise qualified handicapped individual as provided in section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) shall also apply to any such program or activity.

(b) COMPLIANCE PROCEDURES AVAILABLE TO ASSISTANT SECRETARY.—

(1) NOTICE.—Whenever the Assistant Secretary determines that a State or unit of general local government that is a recipient of assistance under this Act has failed to comply with subsection (a) or an applicable regulation, the Assistant Secretary shall notify the Governor of such State or the chief executive officer of such unit of local government of the noncompliance and shall request the Governor or the chief executive officer to secure compliance.

(2) NONCOMPLIANCE.—If within a reasonable period of time, not to exceed 60 days, the Governor or the chief executive officer fails or refuses to secure compliance, the Assistant Secretary may—

(A) refer the matter to the Attorney General with a recommendation that an appropriate civil action be instituted;

(B) exercise the powers and functions provided by title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq);

(C) exercise the powers and functions provided for in section 602(a); or

(D) take such other action as may be provided by law.

(c) CIVIL ACTION BY ATTORNEY GENERAL.—When a matter is referred to the Attorney General pursuant to subsection (b), or whenever the Assistant Secretary has reason to believe that a State government or unit of general local government is engaged in a pattern or practice in violation of this Act, the Attorney General may bring a civil action in any appropriate United States district court for such relief as may be appropriate, including injunctive relief.

SEC. 602. REMEDIES FOR NONCOMPLIANCE.

(a) IN GENERAL.—If the Assistant Secretary finds after reasonable notice and opportunity for hearing that a recipient of assistance under this Act has failed to comply substantially with any provision of this Act, the Assistant Secretary, until the Assistant Secretary is satisfied that there is no longer any such failure to comply, shall—

(1) terminate payments to the recipient under this Act;

(2) reduce payments to the recipient under this Act by an amount equal to the amount of such payments that were not expended in accordance with this Act; or

(3) limit the availability of payments under this Act to programs, projects, or activities not affected by such failure to comply.

(b) CIVIL ACTIONS BY ATTORNEY GENERAL.—

(1) REFERRAL TO ATTORNEY GENERAL.—In lieu of, or in addition to, any action authorized by subsection (a), the Assistant Secretary may, if the Assistant Secretary has reason to believe that a recipient has failed to comply substantially with any provision of this Act, refer the matter to the Attorney General of the United States with a recommendation that an appropriate civil action be instituted.

(2) INSTITUTION OF CIVIL ACTIONS.—On such a referral, the Attorney General may bring a civil action in any United States district court having venue thereof for such relief as may be appropriate, including an action to recover the amount of the assistance furnished under this Act that was not expended in accordance with this Act, or for mandatory or injunctive relief.

(c) CIVIL ACTIONS.—

(1) PETITION FOR REVIEW OF ACTION OF ASSISTANT SECRETARY IN COURT OF APPEALS.—Any recipient that receives notice under subsection (a) of the termination, reduction, or limitation of payments

under this Act may within 60 days after receiving such notice, file with the United States Court of Appeals for the circuit in which such State is located, or in the United States Court of Appeals for the District of Columbia, a petition for review of the action of the Assistant Secretary. The petitioner shall forthwith transmit copies of the petition to the Assistant Secretary and the Attorney General of the United States, who shall represent the Assistant Secretary in the litigation.

(2) FILING OF RECORD OF PROCEEDINGS IN COURT BY ASSISTANT SECRETARY.—The Assistant Secretary shall file in the court the record of the proceeding on which the Assistant Secretary based the action of the Assistant Secretary, as provided in section 2112 of title 28, United States Code. No objection to the action of the Assistant Secretary shall be considered by the court unless such objection has been urged before the Assistant Secretary.

(3) ACTION ON FINDINGS OF ASSISTANT SECRETARY.—The court shall have jurisdiction to affirm or modify the action of the Assistant Secretary or to set the action aside in whole or in part. The findings of fact by the Assistant Secretary, if supported by substantial evidence on the record considered as a whole, shall be conclusive. The court may order additional

evidence to be taken by the Assistant Secretary, and to be made part of the record. The Assistant Secretary may modify the findings of fact of the Assistant Secretary, or make new findings, by reason of the new evidence so taken and filed with the court. The Assistant Secretary shall also file such modified or new findings, which findings with respect to questions of fact shall be conclusive if supported by substantial evidence on the record considered as a whole, and shall also file the recommendation of the Assistant Secretary, if any, for the modification or setting aside of the original action of the Assistant Secretary.

(4) EXCLUSIVENESS OF JURISDICTION AND REVIEW BY SUPREME COURT.—On the filing of the record with the court, the jurisdiction of the court shall be exclusive and its judgment shall be final, except that such judgment shall be subject to review by the Supreme Court of the United States on writ of certiorari or certification as provided in section 1254 of title 28, United States Code.

SEC. 603. REPORTING REQUIREMENTS.

(a) ANNUAL REPORT REQUIRED.—Not later than 180 days after the close of each fiscal year in which assistance under this Act is furnished, the Assistant Secretary shall submit to the Congress a report that shall contain—

(1) a description of the progress made in accomplishing the objectives of this Act;

(2) a summary of the use of such funds for each individual program or activity authorized by this Act during the preceding fiscal year; and

(3) in the case of grants authorized under subtitle A of title III—

(A) a listing of each unit of general local government receiving funds;

(B) the amount of such funds;

(C) a brief summary of the projects funded for each such unit;

(D) the extent of financial participation by other public or private entities; and

(E) the impact on employment and economic activity of such projects during the previous fiscal year.

(b) INFORMATION FROM RECIPIENTS.—The Assistant Secretary may require recipients of assistance under this Act to submit to the Assistant Secretary such reports and other information as may be necessary for the Assistant Secretary to make the report required by subsection (a).

SEC. 604. CONSULTATION WITH OTHER FEDERAL AGENCIES.

In carrying out this Act (including the issuance of regulations), the Assistant Secretary shall consult with other Federal departments and agencies administering Federal grant-in-aid programs.

SEC. 605. HISTORIC PRESERVATION REQUIREMENTS.

With respect to applications for assistance under this Act, the Secretary of the Interior, in consultation with the Assistant Secretary and the National Trust for Historic Preservation in recognition of its charter duties, shall prescribe and implement regulations concerning projects funded under this Act and their relationship with—

(1) "An Act to establish a program for the preservation of additional historic properties throughout the Nation, and for other purposes", approved October 15, 1966 (16 U.S.C. 470 et seq.); and

(2) "An Act to provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be lost as a result of the construction of a dam", approved June 27, 1960 (16 U.S.C. 469 et seq.).

○

WRITTEN QUESTIONS FROM SENATOR GRASSLEY TO MR. BERGLAND AND THE RESPONSES

Question 1. Mr. Bergland, I appreciated your testimony about the rural electric cooperatives' efforts in developing economic projects within rural communities. As you may know, the REC's in Iowa have been very active in promoting rural development. The efforts of the REC's should serve as an example to other organizations which rely heavily on the strength of our rural communities. The effort of the rural electric cooperatives has been successful, in part, because of the strong cooperative system within the State. You have made a case for expanding the role of the REC's to implement the federal government's rural development objectives. How do you intend to serve those rural areas that are not served by the REC's or that may not have as strong of a cooperative system as the State of Iowa?

Answer. Rural electric systems serve in 2,600 counties in 46 States. They cover most of the land mass of the United States. In States where the cooperative system is not as strong as in the State of Iowa, I feel that they, nevertheless, have an important role to play in economic development. The Rural Electrification Administration (REA) can assist them in this to a very large extent by providing both leadership and technical assistance. One way in which REA could do this would be to develop a small technical assistance group which could provide direct, "hands-on" assistance to rural electric and telephone cooperatives on specific economic and community development projects. This is something which could be accomplished within the existing REA salary and expense and employment levels set by Congress. The presence of this technical support and leadership from REA would strengthen the ability of rural electric systems in the economic development area, even in states where the cooperative system is not as strong as in the State of Iowa. This concept of creating such a technical asistance unit was proposed earlier this year by 41 Senators and 75 Members of the House in a letter to Agriculture Secretary Richard Lyng.

With respect to the rural areas which are not served by a rural electric or telephone cooperative, clearly something would need to be done separately from electric and telephone co-op involvement. One option is the establishment of nonprofit local development corporations, comprised of a number of public and private organizations which would all contribute their ideas and some financial backing toward dealing with development issues on a comprehensive basis. In fact, even in those areas where rural electric systems are strong and effective contributors to the development process, we encourage them to form or join coalitions with other organizations. No single organization can do the job alone. The development process, by its very nature, must be inclusive. Every local organization has a role to play, as does local and State government, and the Federal Government. Additionally it should be mentioned that the most effective efforts are generally those which include some type of intelligent public-private partnership.

Question 2. What do you see as the relationship between the State Government and the Federal Government in aiding rural economic development?

Answer. NRECA's focus has been primarily on working with our rural electric member systems in encouraging and assisting them to become more active and effective in their development efforts in their local communities. We feel that there is a role for government in this process because many local projects are not feasible, especially in their early stages, without some government assistance. Rural electric systems have worked closely with both Federal and State economic development programs on specific projects in their communities. We are concerned that in any development program—Federal or State—that funding and other assistance not be concentrated only in areas of high population density. These must be made available to rural areas, including the more remote rural areas served by rural electric cooperatives.

Question 3. Could the RECs effectively coordinate the economic development activities of various State and local governmental, philanthropic and business organizations?

Answer. Yes. I feel that in many cases rural electric cooperatives are ideally suited to play a leadership and coordinating role. They are locally owned and locally controlled, and are governed by a board of directors which is elected by those which receive electricity from the cooperative. However, let me add that in any comprehensive economic development effort, all relevant players—public, private, Federal and local—ought to be involved. This must be a cooperative and not a competitive venture.

Question 4. Mr. Bergland, this committee appreciates your comments about not being able to solve the problems of rural America by the use of large Federal spending programs. Do you feel a Federal program that relies on access to capital as compared to direct government spending could be implemented and effectively utilized by small communities?

Answer. Federal funding of rural development programs has been reduced substantially during the 1980s. Despite the fact that many rural communities have faced economic disaster, Federal funding for rural development has been reduced by about 75 percent, while investments in other areas, such as national defense—which has grown by more than 50 percent—has grown. Despite these facts, I feel that, in view of our Federal budget programs, Federal funding for rural development will not increase dramatically in the near future. Additionally, I feel, as I pointed out in my testimony before your committee, that successful development efforts must have a strong element of local commitment and initiative. Merely spending money in the absence of this commitment will not revitalize rural America.

With respect to your question regarding the effectiveness of *access* to capital, as compared to direct government spending, I think that a great deal can be accomplished by improving access. However, both of these elements address different problems. Direct government spending is generally at attractive terms. This type of assistance is needed for those kinds of development projects which are not feasible with solely private capital. Access to financing, as opposed to direct government programs, is required for those projects which can meet a market test of feasibility. Government loan guarantees, and the concept of a secondary market for rural areas are both important ways of addressing the access issue without increasing direct government spending.

NRECA is proposing that one way of addressing the issue of rural capital needs is to authorize REA to provide the same types of financing assistance—grants, loans, and guarantees—as other development agencies, with the additional requirement that these Federal monies be used as a method of leveraging in order to attract greater amounts of private capital. We believe that this kind of authority at REA, the important network of rural electric and telephone systems could become even more effective partners in promoting development across the rural United States.

WRITTEN QUESTIONS FROM SENATOR GRASSLEY TO GOVERNOR JORDAN AND THE RESPONSES

Question 1. Mr. Jordan, you spoke about the success of rural economic development efforts in your State. Do you feel a Federal program that relies on access to capital as compared to direct Government spending could be implemented and effectively utilized by small communities?

I am interested to know if the State of North Carolina would be able to utilize a Federal program based on loan guarantees and revolving loan funds?

Answer. A Federal program that relied on access to capital, instead of direct government spending, could be used effectively by small communities in our country.

This approach could have many advantages. First, it could be structured to allow administration and technical assistance at the local level. By adopting a local approach, more small communities would use the program.

Second, a Federal program based on loan guarantees and revolving loan funds could do more with less money. Since most of the loans would be repaid in a timely manner, the guarantees would not be as costly as a direct appropriation on an annual basis.

Finally, loan guarantees are attractive because they address the problem of *access* to capital. Interest rate subsidies, such as those suggested in section 201 of S. 1729, the Rural Economy Act of 1987, only address the *cost* of capital. A key in many rural areas is finding adequate capital, although lower interest rates are important.

Question 2. Mr. Jordan, your testimony mentions one of the most serious problems within rural areas—the problem with decaying infrastructure. If North Carolina is similar to Iowa, I'm sure the $21.5 million clean water loan and grant fund does not scratch the surface of the problem. The problem for many communities, when faced with limited funds, has been whether to invest in economic development projects or to invest in improvement of infrastructure. The problem can be paralleled with the famous chicken and egg controversy. In North Carolina, was any effort made to tie economic developmnent funds to infrastructure improvements or was the allocation of infrastructure money based solely on the need of the communities?

Answer. North Carolina has linked our economic development efforts with our work to improve infrastructure. For example, we have allowed local governments to enter industrial revenue bond pools. With a good collective credit rating, they are therefore able to obtain necessary capital that they might not get individually.

Second, the Rural Economic Development Center is using a combination of public and private money in our State to study how we can improve our rural economy. Their ideas will later be transferred into programs that will help both economic development and infrastructure.

Third, our State is exploring creation of a program that would give matching grants to local governments to develop capital improvement plans. This kind of thinking for the future is what we need to meet our infrastructure needs.

You are correct that our allocation of $21.5 million for our revolving water and sewer loan fund is inadequate to meet our needs. By appropriating this money for the 1987-89 biennium, however, we were able to qualify for an additional $88 million of Federal funds to be used for this purpose.

As your question indicates, it is often difficult to determine which comes first—a good infrastructure or a healthy economy. By investing in infrastructure, we allow communities to grow (84 North Carolina municipalities currently can issue no building permits because of limited water and sewer capacities). We will continue to coordinate our efforts in the future in an attempt to improve our rural economy.

WRITTEN QUESTIONS FROM SENATOR GRASSLEY TO DR. KOEPKE AND THE RESPONSES

Question 1. From your perspective, which package--a limited package that could be passed quickly or an omnibus package that might pass Congress next year—is going to better serve the needs of the people in rural America?

Answer. Your question is an excellent one. Unfortunately, these are times that force all of us to be realistic. Although I would personally like to see an omnibus package that would cover everything from health care to economic development, I don't believe we can expect it to happen.

Realistically, I would recommend that we attempt to first deal with the most important element of a permanent solution and that, in my opinion, involves the creation of jobs in rural America. If we can stimulate the creation of jobs in rural America, we will ultimately do a lot to solve the other problems that are so painfully obvious. Jobs will keep young people in rural communities and they in turn will pay taxes which will support our schools, municipal governments, county governments, and so on.

From my point of view, the Federal Government can do many things to stimulate job creation in States like yours and mine without investing huge sums of money. For example, the Small Business Administration could be encouraged to expand its "Procurement Assistance" program in rural America. This program is designed to help small businesses successfully compete for Federal contracts.

More complex programs also may have promise. Could the Congress consider tax credits for businesses willing to provide venture capital for small businesses wanting to grow in communities of less than 20,000 people? If such a program proved possible, the ultimate cost in lost tax revenues might be very small in that as the investments matured, then income could be taxed to offset the initial tax credit. The newly created businesses, if successful, would also be paying taxes. Ideas like this take a great deal of refinement, but do address the problem. Job formation in rural America is many times frustrated by a lack of venture capital.

In summary, a quick fix to a complicated problem isn't possible! Nonetheless, Congress can deal with important parts of the problem without spending huge sums of money. Such programs should be started at once. An omnibus approach may ultimately be necessary, but time is of the essence and parts of a total solution may be better than waiting for the home run.

The Banks for Cooperatives'
Economic Development Loan Programs

Testimony Presented to the Senate Budget Committee

by

W. M. Harding

President

Central Bank for Cooperatives

Denver, Colorado

March 24, 1988

CR2/26

Mr. Chairman, my name is Malcolm Harding. I am president of the Central Bank for Cooperatives in Denver, Colorado. I appreciate the opportunity to present testimony on the role of the Banks for Cooperatives in promoting economic development in rural areas.

The twelve district Banks for Cooperatives and the Central Bank for Cooperatives are part of the Farm Credit System. The Banks for Cooperatives provide financial services to over 3,200 agricultural cooperatives and rural utility systems. The banks currently have about $8 billion in loans outstanding. The repayment record has been very good despite the problems in the agricultural economy. During 1987, $6.79 million was set aside to provide for loan losses.

Agricultural cooperatives and rural utility systems--and the credit programs they rely on--have a significant effect on the rural economy. For example, the 70 largest borrowers of the Banks for Cooperatives have total annual sales in excess of $33 billion and assets of $28 billion.

The Fortune 500 list of industrial enterprises includes 15 agricultural cooperatives--14 of which have a banking relationship with the Banks for Cooperatives. These 15 agricultural cooperatives employ about 60,000 people--nearly all in rural areas.

These statistics illustrate the important economic contribution being made by the borrowers of the Banks for Cooperatives. These numbers are also indicative of the role the Banks for Cooperatives could play in contributing to the revitalization of rural America.

For the record, I will provide background information on some of our present credit programs and a discussion of how the Banks for Cooperatives might be able to become more involved in rural development in the future.

CREDIT PROGRAMS PROMOTING ECONOMIC DEVELOPMENT

Rural Utility Financing--The Banks for Cooperatives have been authorized to finance certain rural utility systems for 15 years. That authority was expanded in 1985 when Congress authorized all the rural utility systems that are eligible to borrow from the Rural Electrification Administration to also borrow from the Banks for Cooperatives. The banks currently have about $2 billion in loans outstanding to 260 rural utility systems. Clearly, the Banks for Cooperatives have become an important supplemental source of credit for rural electric and telephone systems. These utility systems will provide the energy and communications technology for future generations of rural Americans.

Financing Partnerships and Joint Ventures--The Banks for Cooperatives were authorized by the Agricultural Credit Act of 1987 to provide financing to partnerships, joint ventures and similar entities that are controlled by eligible borrowers. This authority is already being used as farmer-owned cooperatives join in partnership with commercial enterprises to develop new business opportunities and create new jobs in rural areas. Farmer-owned cooperatives need the capital and expertise resulting from cooperatives and commercial businesses joining to form new enterprises. These new businesses resulting from such partnerships help create jobs in rural areas.

Community Development--The Department of Agriculture estimates America's 46,000 rural communities will require over $20 billion in capital expenditures to bring rural wastewater treatment facilities up to national standards. In the past, the Farmers Home Administration (FmHA) and other federal agencies have provided billions of dollars in grants and low-interest loans to build or improve water and wastewater treatment facilities. However, current budgetary restrictions make it unlikely adequate amounts of federal assistance will be available in the future.

In 1986, Congress authorized the Banks for Cooperatives to purchase and service community development loans from the FmHA. The legislation was part of the Administration's initiative to sell certain federal assets. Under the authority provided by Congress, the banks were authorized to provide additional financing for any organizations whose loan was purchased.

The Administration was anxious to demonstrate Wall Street's interest in purchasing federal loan assets and establishing an ongoing secondary market for such assets. Primarily for those reasons, the Banks for Cooperatives were not able to reach agreement with the Administration to purchase the FmHA assets offered for sale.

However, the experience provided the Banks for Cooperatives substantial insight into the credit needs of rural communities--including the need for a nongovernmental source of credit. In particular, rural communities want a lender who is knowledgeable about their special needs and can assist them in accessing the financial markets.

Such a lender is needed to act as an intermediary between small rural communities and the large, complex financial market place. A lender dedicated to servicing the credit needs of rural America could play an important role in arranging financing for rural community development projects such as wastewater treatment facilities, water treatment systems, community health centers, and other needs such as community fire departments and town meeting facilities.

Most small communities are not capable of obtaining a bond rating or acquiring long-term funds from traditional commercial lenders. If authorized, the BCs--with over fifteen years experience in financing rural utility systems--could help many small communities with pressing credit needs but without ready access to financial markets.

Concurrent Financing—In the past, federal agencies--such as Farmers Home Administration--have provided loan guarantees to private businesses that create jobs in rural areas. The Banks for Cooperatives have substantial expertise in financing rural businesses, but often are prevented from participating in such programs due to eligibility limitations. The banks have worked with the Rural Electrification Administration to provide joint or concurrent financing to rural utility systems. A similar arrangement with other federal agencies could have significant merit.

Export Financing--The Banks for Cooperatives are the only U.S. lenders that make significant and consistent use of the Department of Agriculture's export loan guarantee programs. Most of the other lenders using the programs are foreign banks. It is ironic that American farmers must depend on foreign banks to finance the export of agricultural products.

Last spring, the Wall Street Journal reported that American exports were being hampered due to a lack of financing. An American banker was quoted as saying, "One of the reasons the agricultural community can't export to [developing countries] is they can't get financing."

Last fall, the Washington Post reported on a speech made by the chairman of the U.S. Export-Import Bank. The news article was entitled "U.S. Banks Accused of Failing to Meet Needs of Exporters."

While other commercial lenders have curtailed or eliminated their agricultural export financing operations to pursue more profitable endeavors, the Central Bank for Cooperatives recently reached a new record of $1.2 billion in export loans at year-end 1987. That was a 60 percent increase over year-end 1986. Despite the rapid growth in this lending program, not a penny of principal has been lost.

Adequate financing must be a key part of any plan to increase agricultural exports. It would improve the marketability of agricultural products and the health of rural economies. Clearly, the Banks for Cooperatives could make a greater contribution to promoting agricultural exports.

However, burdensome eligibility restrictions require an agricultural product to originate from and be owned by farmer-owned cooperatives until the product is delivered to the purchaser to be eligible for financing from the Banks for Cooperatives. This is nearly impossible for grain products that are fungible and that frequently change ownership between the country elevator and the final destination. Broader authority to finance American-produced farm exports could significantly improve the marketability of U.S. agricultural products. It would also improve the balance of trade situation.

CONCLUSION

The owners and customers of the Banks for Cooperatives live in rural areas. The banks themselves are solely dedicated to serving the credit needs of rural America. For those reasons, the banks have a commitment to assist in bringing about the revitalization of rural economies.

The Banks for Cooperatives have used existing economic development authorities prudently for the benefit of rural Americans. These and new authorities could provide the Banks for Cooperatives an important role as private sector lenders in promoting rural economic development.

Mr. Chairman, I commend you for holding these hearings on rural development and we appreciate the opportunity to have our thoughts made part of the hearing record. We would be pleased to work with the committee as specific legislative proposals are developed.

SCIENCE AND TECHNOLOGY POLICY

WEDNESDAY, MARCH 16, 1988

U.S. Senate,
Committee on the Budget,
Washington, DC.

The committee met, pursuant to notice, at 10:05 a.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Domenici, Grassley, and Danforth.

Staff present: Richard N. Brandon, staff director; and Eric Fischer, congressional science fellow.

For the minority: G. William Hoagland, staff director; and Bill Hughes, senior analyst for transportation and science.

OPENING STATEMENT OF CHAIRMAN CHILES

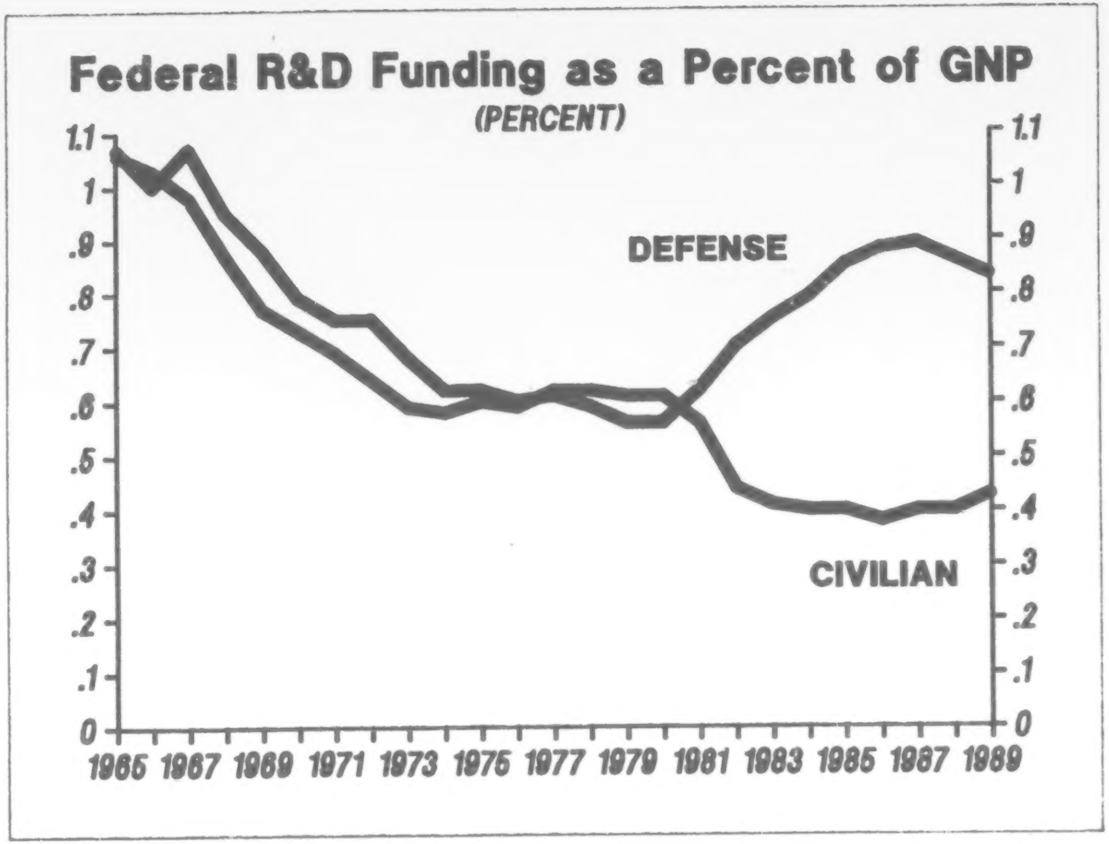
Chairman Chiles. Today we are pleased to welcome a panel of distinguished guests to the hearing on science and technology: Dr. Lewis Branscomb the director of the program on Science, Technology and Public Policy at Harvard University; Dr. Solomon Buchsbaum, executive vice president of AT&T Bell Laboratories; and Dr. Gilbert Omenn, dean of the School of Public Health and Community Medicine at the University of Washington.

Just a week ago, I was in Santa Fe, New Mexico, for a budget hearing on the home ground of Senator Domenici. I said then and I will repeat today that the laboratories of New Mexico are among the most famous cradles of modern science. In fact, just this week, the Sandia Laboratory announced a major breakthrough in supercomputers. It is another example of how much we can do and how well we can do it. But we also have some shortcomings.

Recently, almost half the patents granted in the United States have gone to foreign inventors. In 1986, the U.S. trade balance in high technology goods was negative for the first time ever. The U.S. portion of the world's science and technology publications has also decreased. These trends should be a call to action, yet our Nation has been slow to respond.

Chart 1 shows we have cut spending for civilian science and technology dramatically, while at the same time increasing spending for defense research and development. The gains in defense have almost been entirely in programs with little, if any, civilian application. There has been no real increase on the part of defense spending that goes for fundamental research.

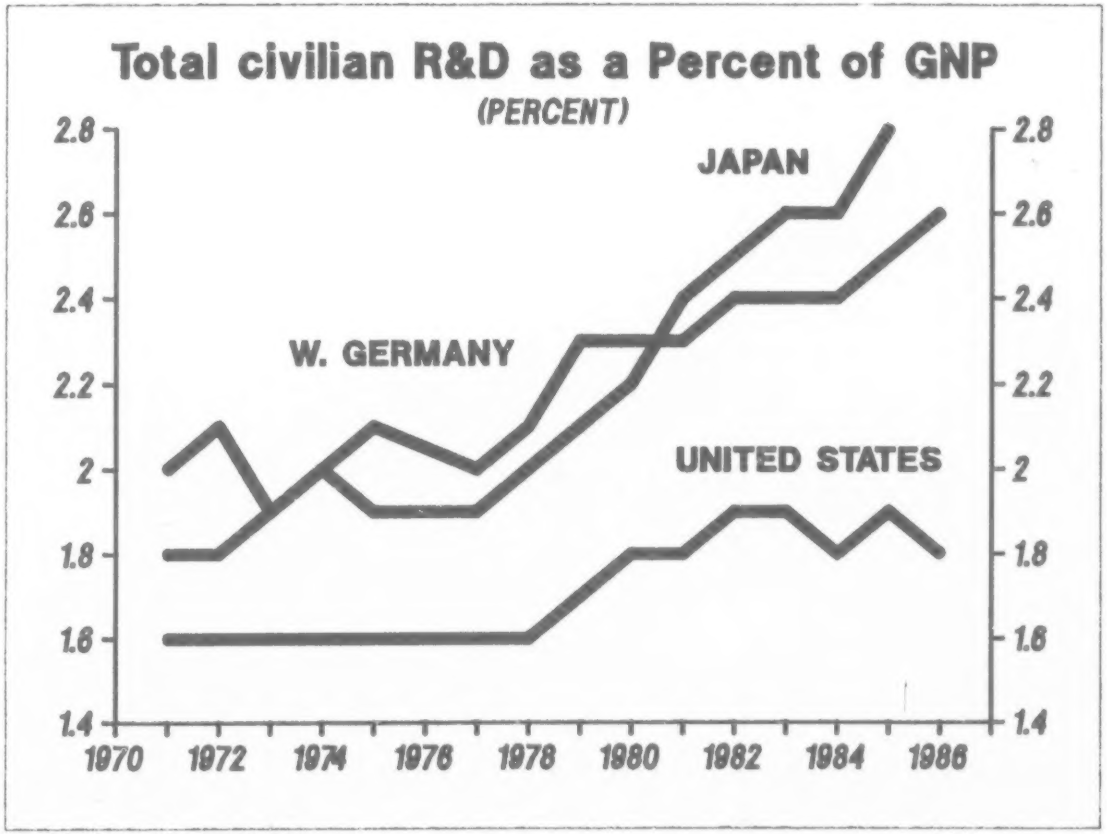
CHART 1



Federal R&D Funding as a Percent of GNP

(PERCENT)

CHART 2



Total civilian R&D as a Percent of GNP

(PERCENT)

Our competitors have not been standing still. As chart 2 shows, they have increased their total spending for civilian research and development, while ours has remained essentially flat during the last 8 years.

The Japanese have been especially active. They have dramatically increased their number of scientists and their share of world patents, scientific publications and high technology exports. While their investment in R&D has gone up, it has gone up at the same time and continued to go up with their gross national product. You would suspect as the GNP went up, the amount that they are putting into R&D might have leveled off somewhat, but it has not. They have kept the same acceleration.

We are very concerned about these trends. During the past 8 years, we have gone from being the world's largest creditor Nation to being the world's biggest debtor. If the trends we see here continue, I cannot help but wonder if we will be a debtor Nation in science and technology as well.

Fortunately, changes are in the wind. The President's budget request proposes large overall increases for civilian science and technology for the fiscal year 1989. However, these increases of more than 2 billion total up to more than two percent of the cap on discretionary spending that was agreed to in last year's budget summit. Consequently, funding for science and technology is going to be a major issue in this year's budget.

Science and technology are our investment in the future. While funding levels are important, we need to look beyond the question of "how much" to "what for." We need to determine the right balance between the traditional small-scale science and large projects; we need to train the next generation of scientists and engineers to meet these challenges of the future.

Congress clearly recognizes the importance of science and technology to the future of our country. I think the days are gone when the need for a strong national effort in science was seriously questioned. However, the current tight budget situation means that we may not be able to increase funding as much as we would like, and we probably, therefore, have to set priorities to make choices. We will have to examine the way our Federal science effort is organized and managed and make the necessary changes to maximize returns on our investment.

The scientific community needs to participate in this priority-setting and organizational change. Such responsibility goes along with the increased commitment of our Government to support science and technology. It should not be viewed as a threat but, rather, as the challenge as we look to the future.

Today, we are asking you, as eminent scientists, to be among the first to tackle these issues. We look forward to your testimony on these matters.

Dr. Branscomb, we will call on Senator Domenici for an opening statement.

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman.

Let me, too, welcome you distinguished scientists today to appear before our committee. I want to thank Senator Chiles for his comments with reference to our national laboratories. This is not a hearing on the national laboratories, but science and research and development in general. However, it has long been my view that we have not utilized this whole spectrum of American science adequately. We have not found a way to merge the various centers of activities in a way that is most productive.

It seems to me we had the luxury for far too long to let business do all the research and development. We had universities doing some R&D as the secondary goal. Then we had national laboratories that were more or less single-minded, yet had a great array of talent. And we have not yet been able to put those together in a synergistic way so as to maximize and capitalize on the science and knowledge that the American experts do, indeed, have. I think that is one of our great challenges.

Having said that, let me say the chairman has quite properly, and I think maybe for the first time in a public forum, stated one of the major budget issues this year. It has not yet gotten out to the public that we have a cap on domestic spending that we have all agreed upon. We did that last year. The President was not bound to any list of priorities there, and he chose to put an awful lot of increases on the science and research side: NASA, National Science Foundation and the like.

On the other hand, if speading on those programs is going to go up substantially—and he proposes that it does—clearly Congress is going to have to restrain some of the other domestic programs, be it mass transit subsidies or some of those that the President has suggested.

Now, this will not be the first time that this committee has addressed this issue. Mr. Chairman, I am reminded that last year in the budget resolution we had a $700 million increase recommended in the areas of National Science Foundation and the like. And I must tell you, and I must state for the record, by the time Congress finished its allocating and appropriating, that $700 million was reduced to $100 million, and the remaining $600 million was spent elsewhere within the programs of our national Government.

Now, obviously, it is a tight fiscal policy, and those choices will be made. I am hopeful that this committee will do the best we can to spend a maximum amount in research and science and the like, and let others challenge it and see where we come out 2 or 3 months from now in the appropriation process.

Obviously, we are not here to preach to the witnesses. We want to hear from you. But, clearly, the chairman is right on another score. He has said it one way; I will say it another. I do not think we have a very significant economic future in America unless we find ways to capitalize on our science and research capabilities, applying them to the American marketplace, and thus producing jobs and economic growth. If we fail in the next two decades in that responsibility, I see no fiscal policy, no tax policy that is going to bail us out.

This world is moving very, very fast. With computers adding to the knowledge base, innovation and breakthroughs are going to occur in abundance in the next couple of decades. And we either capitalize on them, or we slide further and further behind in the marketplace with respect to our competitors in the world.

It might even be that we will lose some of the areas that we excel in, like medical science. If we do not move ahead with basic research there and develop new tools, it is my impression that we will even lose that rather substantial lead that we now have over the rest of the free world.

Thank you very much. I would ask that my statement be made a part of the record, Mr. Chairman.

Chairman CHILES. It shall be.

[The prepared statement of Senator Domenici follows:]

OPENING STATEMENT

SENATOR PETE V. DOMENICI

BUDGET COMMITTEE HEARING ON SCIENCE AND TECHNOLOGY

MARCH 16, 1988

I look forward to the testimony of the distinguished scientists before us today.

Research and Development (R & D) clearly is a key to our Nation's competitiveness and economic development. As the Chairman and I heard in our Budget Committee hearing last week in New Mexico, science -- in particular, the national laboratories -- holds great importance to the economic development of New Mexico. Indeed, I am particularly pleased that one of our witnesses is Dr. Solomon Buchsbaum, formally a Vice-President of Sandia Laboratory in Albuquerque and currently on the Board of Directors of Sandia.

When reviewing science policy, I believe Congress needs to begin matching our rhetoric with appropriations for R & D funding. Over the past year we have heard countless speeches on competitiveness and new technologies. The focus of many of these speeches is R & D spending level contained in Function 250, General Science and Space. The final Budget Resolution for the current fiscal year assumed the Function 250 spending for 1988 would increase by $700 million in Budget Authority over the baseline level. By the time Congress completed its appropriations action for fiscal 1988, Function 250 was increased by a mere $100 million.

I fear that R & D funding will be lost again in the shuffle this budget year. As occurred last year, the President is proposing significant increases in Federal R & D expenditures. For civilian R & D, the budget proposes increases of 8 percent over fiscal 1988 levels, while staying within the overall cap of the 2 percent increase allowed under the Budget Summit agreement. We in Congress may disagree with some of the specifics of the President's initiatives, but the proposed 8 percent increase clearly indicates that the President has established R & D as a domestic priority. Congress must be prepared to do the same.

As I see it, a major roadblock to the development of a more effective science policy is the diffusion of responsibility for R & D expenditures among different Appropriations subcommittee's. Even though civilian R & D expenditures represent approximately 16 percent of total domestic discretionary spending, actual funding decisions occur within 9 separate appropriations subcommittees.

Furthermore, within each of those subcommittees, science must compete against many other worthy social programs. A good example of this competition for funds is the problem of the National Science Foundation competing against Veterans, Housing, and environment programs within the limited allocation given to the HUD-Independent Agencies Appropriations subcommittee.

Given this budgetary dispersion of R & D programs, it is not surprising that the scientific community complains we have no clear science policy. We may argue with the President's specific funding proposals, but his budget certainly presents forward thinking initiatives, such as the NSF Science and

Technology Centers, the R & D tax credit, and human Genome research. I am not sanguine, however, that Congress will give civilian R & D funding the needed increases proposed by the President.

If I may, I would like to refer back to a point I made earlier concerning our national laboratories. Without question, this country's national laboratories are among the best research facilities in the world. I am concerned, however, that we fail to transfer quickly enough the knowledge gained in these labs to industry. For example, just two days ago, the Scientists at Sandia Laboratory announced a new parallel processing computer that is 1,000 times faster than the best computers available today. This is a marvelous achievement. We must now find a way to encourage the transfer of this type of technology to the private sector as quickly as possible, in order to develop products that will help our competitiveness, economy, and trade deficit.

I have introduced a bill, S. 1480, specifically designed to speed up the process of exchanges of information between the national laboratories and private industry. The bill would encourage universities and private industry to work closely with the labs, and eliminate the red tape and delays that prevents industry from doing business with the national labs. A good parallel to this concept is the example of Universities that over the past decade have developed cooperative relationships with industry. This cooperation has led to a more than three-fold increase in industry investment in University based R & D from 1977 to 1987. While I do not expect the witnesses to know all the details of S. 1480, I will be particularly interested in their views on how we might tap the scientific expertise in the national labs.

Mr. Chairman, I compliment you on calling this hearing, and I look forward to the testimony of the witnesses.

Chairman CHILES. Dr. Branscomb, we will start with you. Let me just say that we will be interrupted in a little bit. We are going to have a 30-minute roll call vote starting in a few minutes, so we may try to alternate so that one can go vote and one stay.

STATEMENT OF DR. LEWIS M. BRANSCOMB, DIRECTOR, SCIENCE, TECHNOLOGY AND PUBLIC POLICY PROGRAM, JOHN F. KENNEDY SCHOOL OF GOVERNMENT, HARVARD UNIVERSITY, CAMBRIDGE, MA

Dr. BRANSCOMB. Thank you, Senator. Your introduction reminds me of a paperback novel I picked up in an airport called "California Roll." It is about high technology competition with the Japanese, and there is an American private eye who goes over to Japan in connection with a theft of some computer secrets. He meets an official from MITI. The gentleman from MITI says, "Quite frankly, Mr. Wine, this economic rivalry is not a game to us. We Japanese must import 95 percent of our food and energy. We do not have the luxury you do to become a second-rate agrarian society." [Laughter.]

I do think that is the choice we are facing.

At a time when the technological performance of the United States is seriously challenged by competition, the President has, indeed, sent the Congress a strong program of investments in the national science and technology base. About a quarter of the discretionary component of the budget is related to research and development. It will be a particularly difficult problem this year, as you point out, to find reductions elsewhere to accommodate the increases that the President has requested for fiscal year 1989.

Looking out a few years, this R&D squeeze is likely to become worse unless new sources of revenue are found or some hard choices are made soon. This can be illustrated by looking at some of the larger Federal engineering programs. The peak spending rates on a number of these programs still lie ahead of us: the search for a scientific answer to AIDS; the Challenger replacement; a new heavy life space vehicle; the space station; SDI prototyping; the national aerospace plane; the superconducting supercollider; and a number of international geosphere-biosphere projects. In addition, there is a proposal to sequence the human genome.

The President, in his competitiveness initiative a year ago, also asked the Congress to double the budget of the NSF in the next 4 years. He has asked the Department of Defense to help finance the SEMATECH laboratory and fund an expanded effort in high temperature superconductivity.

This number of expensive projects cannot grow to their peak spending rates without driving out other areas of R&D and other Federal programs. Yet the balance of priorities in the government's R&D program serious affects not only government responsibilities but private industry's technical capability as well. This process should not be left to the tradeoffs that are constrained by agency and appropriations committee structures. Already the pressure of competition for funding is creating dissension within the scientific community.

What place do all these projects and programs have in the military and economic security of America? Are they all of equal value? From the competitiveness point of view, how do they compare with the academic research programs of NSF or NIH? Or with SEMATECH? Or with the defense industrial base investments?

What relationship exists between the Federal investments and those of private companies? Is there an opportunity cost to civil, commercial industry from the 70 percent of Federal R&D that is devoted to military purposes, or does the Federal investment give American industry an advantage?

These unanswered questions call for a clear Federal science and technology strategy.

Under these circumstances, I commend the committee for approaching the budget problem by first inquiring about the organization and management of the Federal effort in science and technology.

I would like to enumerate for you in the summary of my prepared testimony nine important issues that we have to face.

First, defense R&D. Even though the Nation's defense effort represents only about 6.6 percent of the GNP, the associated R&D is some 35 percent of the national effort. Under what circumstances and in what industries does that defense-intensive Federal R&D strategy produce not only the needed defense products but also a commercial advantage for the industry? When is it a burden on the private sector?

In some militarily important technologies, we know that the commercial sector is technically far ahead of the defense sector; microelectronics, for example. Should the defense strategy seek to share the commercial technology base to a greater degree? If so, what are the implications?

Our research at Harvard in this field is still in its early stages, but there is an emerging consensus that defense "spin off" of commercial products is rare; that "spin off" of commercially useful technology is spotty, dependent on the technology, dependent on the industry and the company strategy. Many believe that this contribution, whatever it is, is now diminishing.

There are two basic ways defense technology policy can be balanced with the support for the industrial technology base: either you give more emphasis to leveraging defense technology for commercial competitiveness; or you restrain defense investments to military purposes only, support the economy through civil agencies, and base both defense and competitiveness on a shared base of dual use technologies.

Our current policy seems rather more of the first variety. When the Federal Government decides to help commercial industry—for, example, in the semi-conductor manufacturing technology area or in superconductivity—it uses what I call the "Willy Sutton theory" of technology policy. Civil technology investments are assigned to defense agencies because "that is where the money is."

The second course envisions a lean and efficient defense department working with non-military agencies missioned, staffed and funded to work with the private sector to build the national technology base needed for both defense and the civil sector. This is probably less realistic politically—I worked in the Department of

Commerce for 20 years—but it is more effective in the long term. You learn how to do it.

Second, industrial competitiveness. What is the appropriate response of nonmilitary Federal agencies to the technology component of the industrial competitiveness challenge? Consensus of the experts is that industrial R&D is relatively strong in the United States. The Japanese advantage is more often in design for manufacturability, production processes and systems engineering, quality, cost and rapid turn-around. The best U.S. engineering students do not choose careers in production; our best engineering faculty members have little experience in manufacturing.

The National Science Foundation is hard pressed to sustain U.S. excellence in science while building up interdisciplinary and engineering science research which can accelerate the contribution of science to productivity. If NSF is not the appropriate agency to concern itself about manufacturing technology and education, what agency is?

The Congress has before it proposals to establish a strong technological capability in the Department of Commerce. A particularly interesting examples is S. 1233, the "Economic Competitiveness, International Trade, and Technology Development Act of 1987." But I regret that the department seems an unwilling bride in this marriage, as, indeed, it has been for many years.

The one exception is the National Bureau of Standards. Perhaps a new grouping of nonmilitary technical agencies should be considered, an agency far short of being a Department of Science, but chartered to address the knowledge and education requirements of technology for economic revitalization?

Third, Federal and State cooperation. Industrial policy, controversial in the Federal policy debate, is alive and well in many of the States. State governments may be the right intermediary between the technological power of the Federal Government and the political sensitivities of companies and publics at the local level.

State governments are investing some $2 billion a year in high technology activities designed to build their economies. Yet with few exceptions, the Federal agencies ignore State plans and strategies, and the two efforts are very poorly coordinated.

A strong Federal-State collaboration could have the virtue of coupling the centralized Federal R&D institutions with the decentralized political management of the public-private collaboration.

Fourth, evaluating megaprojects. A better approach to evaluating the "megaprojects"—the big things like the aerospace plane and the superconducting supercollider and the space station—is badly needed, and a better approach to carrying out those that pass muster. For reasons I have never completely understood, the rigor with which the technical benefits from new projects are assessed seems to vary inversely with the size of the project. Look at the wringing out the $50,000 NSF proposal gets, and compare it with the national aerospace plane.

Can we not devise a process, acceptable to both the Congress and the Executive, through which major engineering projects—those with life-cycle costs about $1 billion—are required to document their objectives, their assumptions and their technical strategies, and then make them subject to public view and professional critique?

The Congress should also insist that the Executive attempt to achieve the objectives of big science projects through international collaboration. And I do not simply mean passing the hat internationally for money after we have defined and launched the project. The Europeans have made considerable progress in collaboration for big science facilities through regional international institutions. The costs of scientific progress could be reduced for everyone.

In a recent conversation I had with Mrs. Thatcher's science adviser, it is my impression that their government is going to push hard for that direction in the heads of state meetings in the future.

Fifth, human resources in science and engineering. The human resource investments are, from a long-term perspective, the most important element of national technology strategy. As we build toward a knowledge-intensive economy, we cannot allow our knowledge industry, education, to slip into functional bankruptcy. The problem starts with the K through 12 school system, but our colleges are also in trouble. And our graduate schools are trying to take on a range of new technological challenges without the money to keep their science strong.

We have all read that foreign-born students constitute a majority of the graduate students in engineering. This is not because their numbers have suddenly increased, but because the numbers of capable, motivated U.S.-born students are just not there. The demography of our populations will only make that problem worse. To attract U.S. students into science and engineering and away from law and business, we need well-equipped colleges with modern equipment and properly maintained buildings. There is an accumulating capital investment shortfall that must be addressed by a combination of private, State and Federal funds.

Sixth, indirect incentives, the R&D tax credit and the cost of equity. We must also address the indirect incentives and disincentives for industrial investments in innovation and more competitive production. First is the R&D tax credit, which must be stabilized and made permanent so that financial strategies of companies can, indeed, be leveraged by it. A particularly desirable feature of the credit is the incentive for companies to collaborate with universities in their research. This feature should be designed to encourage companies to invest people as well as funds in collaborative activities on campus.

The most important indirect disincentive today is the tax structure that makes American industrial equity assets much more expensive than Japanese, and drives corporate managements to short-term optimization of their businesses. We should have a capital gains tax structure that has high tax rates for short-term gains, but phasing down to zero for gains in industrial equity held for, say, 3 to 5 years. If passed—I am sure over the dead bodies of the brokerage industry—this proposal would not only attract savings into our corporate sector, but it would also change the way managements are evaluated by stock analysts. They would soon find their stock prices reflecting the extent of reinvestment of retained earnings. With Americans saving at one-third the rate of the Japanese, something has to be done to permit American workers' productivity to be supported with modern production facilities.

Seven, basic science. I have emphasized the areas of national technology policy where the United States is weak and restructuring is needed. In the area of our greatest comparative strength, basic science, we are now heavily challenged. The Japanese are well aware that having reached technological parity in many areas, and leadership in a few, they must now move forward on their own innovations. For this reason, they are investing heavily in the expansion of their basic research capability, and our government is urging them to do so.

This is no time for America to let its greatest asset atrophy. The NSF commitment to the creative individual investigator, to building centers for multidisciplinary research, to building up engineering research laboratories with industry cooperation, all the while strengthening science education, requires at least the budget doubling the President has asked for.

Eight, the Office of Science Technology Policy and a budget strategy. The OMB does not construct a Federal R&D budget until the special analysis is made after the budget is completed. An astonishing fact, but it is true.

As the GAO pointed out in an excellent report last year, an important step in creating such a strategy is improving and making consistent, agency to agency, the definitions of different elements within the RDT&E activities. The NSF definitions of basic applied research and development are based on the motives of the investigator, not the motives of the investor; they are not commensurate with the budget categories used in defense. All of this contributes to the confusion over what types of research are appropriate for the civil agencies to finance, with private industry as the intended beneficiary.

To provide technically knowledgeable management support to the President, a much better staffed and more capable Office of Science and Technology Policy is needed. Its relationships with OMB need to be clarified and a process for structuring a Federal R&D strategy and a budget to support it put in place.

Finally, budget tradeoffs in the Congress. A similar problem of budget balkanization occurs in the legislative branch. The Budget Committee should examine carefully the way the budget resolution is divided among the appropriations subcommittees, for the subcommittee structure determines how the tradeoffs are made. I am sure—in fact, you referred to it a few minutes ago—that last year the Senate did very well by the President's request for NSF, and in the House Mr. Boland, I am sure, wanted to. He has always been a good friend of the Foundation. But he could not avoid funding the requirements in NASA, and he had then to choose between NSF and an HUD program that was very important. He did choose the HUD appropriation. That does not permit a tradeoff between the NSF appropriation and other parts of an R&D budget.

So long as Gramm-Rudman is necessary—and I predict something like that will be necessary for a long time—an integrated science and technology budget will be hard to achieve in the Congress as well as in the Executive. We must solve the problem, for we have no talent to waste and no money to spare.

Thank you.

Senator DOMENICI. Thank you very much.

Again, as indicated, the chairman went to vote. Upon his return I will go over to the Senate floor. We will go ahead and proceed with the witnesses before we inquire.

Dr. Buchsbaum, you are next. We welcome you.

STATEMENT OF DR. S.J. BUCHSBAUM, EXECUTIVE VICE PRESIDENT, AT&T BELL LABORATORIES

Dr. BUCHSBAUM. Thank you, Senator. I welcome the opportunity to contribute to these hearings.

The letter of invitation from the committee to be a witness this morning states that the committee is, and I quote, "Looking forward to hearing views on the organization and management of the Federal effort in science and technology and on the ability of the recommended R&D programs to meet current and future challenges." The committee defines these challenges as ranging from international competitiveness to health care.

I would also like to address the issues the committee posed by offering my views on the R&D program for fiscal year 1989 recommended to the Congress by the administration and on the priorities that are evident in the science and technology enterprise funded by the Federal Government. To the extent I can, I will comment on the process by which the priorities are set, or should be set. I will try to keep my remarks to the allotted 10 minutes, Mr. Chairman.

Senator DOMENICI. Would you suspend for a minute?

Senator Danforth, have you voted?

Senator DANFORTH. Yes, I have.

Senator DOMENICI. Would you mind, then, if I go vote? Senator Chiles is en route.

Senator DANFORTH. Of course.

Senator DOMENICI. Thank you very much.

Dr. BUCHSBAUM. I want to say at the outset that while determining R&D policy and the setting of priorities are intrinsic to my job at AT&T Bell Laboratories, I have not had any direct responsibility for setting such priorities within the Federal Government. I have advised the Federal Government for many years on a great many issues involving science and technology, including the setting of priorities, but advising is easy. Taking responsibility is very much harder. Consequently, my testimony today is that of an interested observer, perhaps a critical observer.

Because of my particular background and expertise, I can most knowledgeably address the R&D components of the budgets for those agencies that deal with the physical and mathematical—rather than health-oriented—fields. I will concentrate especially on the Department of Defense, Department of Energy, the National Aeronautics and Space Administration and the Science Foundation because that is where the bulk of the R&D money is spent.

The committee hardly needs reminding that, with the exception of the NSF—where the support of research is an end in itself—the other agencies, the mission-oriented ones, support R&D as a means to an end. So one has to judge the adequacy of the recommended programs in view of the mission of each agency. For that reason, it is entirely proper and appropriate that, under overall policy guidance from the White House, each mission agency, early in the budget-setting process, recommend its R&D program to satisfy its mission objectives. The more detailed involvement of the Office of Management and Budget, the OSTP, other advisory councils in the White House and the President himself comes later in the budget-setting process, to decide on ultimate affordability and adherence to overall policy.

However, because nearly all departments and agencies support basic research to a greater or lesser extent, basic research needs to be examined in its totality to see if there are overlaps or voids, and to assess whether or not the parts form a coherent whole. In this regard, I believe the Federal Council for Science, Engineering and Technology—FCCSET, as it is called—chaired by the President's science adviser, should play a key coordinating and oversight role. The FCCSET has begun to do this, but it can and should do more.

I will return to a more detailed discussion of basic research later in this testimony.

For fiscal year 1989, the President has asked for a 4 percent increase in R&D over the corresponding amount for fiscal year 1988. Included in the total is an increase of 6.2 percent for basic research.

A healthy R&D enterprise is vital to our national well-being. Therefore, a modestly growing R&D budget, even in times of budgetary stringency, is still necessary and right for the Nation. It is particularly important that the basic research enterprise, especially that at colleges and universities, be kept healthy and vibrant.

I want to comment now on four of the major R&D programs. The Department of Defense has chosen wisely, I believe, to increase slightly its investment in R&D in the face of a flat overall defense budget.

That is consistent with a well-established priority, namely, to retain a technological edge over our potential adversaries. It is of concern, however, that within this R&D program, the support for research, both basic and applied, is being reduced.

This trend toward reduction of support for research as a fraction of total R&D/T&E budget is tantamount to mortgaging our future.

I strongly believe that a time has come to begin to reverse this trend, and urge this committee to take the initiative to do so.

In the National Aeronautics and Space Administration, our top priority ought to be to reacquire the capability of placing large payloads in space, and do so safely, reliably, and in a cost-effective manner.

The present NASA R&D program does not, in my view, treat this objective of better transport into space with high enough priority.

I have two concerns with the Department of Energy's R&D program. The first has to do with the proposed reduction of R&D on fossil fuels, specifically coal. We will be burning coal for many decades to come. We ought to learn how to do so more effectively and with less impact on the environment, and that calls for more, not less, research and development.

Secondly, I really do applaud the DOE's historical support for large facilities needed for state-of-the-art research in high-energy nuclear and condensed-matter physics, especially when such facilities are operated as multi-user facilities.

Such facilities are necessary if cutting-edge research is to be conducted. Yet the recent spate of new facilities in this agency, and elsewhere, already under construction and being proposed has implications for the future of basic research budgets several years hence, and these need to be understood and agreed upon before proceeding with all the construction projects.

With regard to the National Science Foundation, I strongly support the President's plan to double the NSF's budget in 5 years. The increase proposed for 1989 is in line with this plan and is overdue.

That part of the NSF's budget which supports research has been essentially flat in real terms during the past 4 years. This is not consistent, in my view, with the need, especially at colleges and universities, to maintain a healthy and stable research and educational infrastructure.

In 1989, the NSF is proposing once again to embark on a new initiative, the creation and funding of a dozen or so Science and Technology Centers at selected universities.

I support this initiative. As the committee recognizes, probably the most important problem this country faces is the productivity of industry and its international competitiveness.

This problem simply must be solved and industry itself, in the final analysis, must solve it. But industry can use help, and the most important help it can receive is an adequate supply of technical people who are motivated to work in production, in the more grubby environment of a factory, rather than in the more glamorous environment of research and development

NSF's Engineering Research Centers, and the new Science and Technology Centers are aimed at learning how to speed up the innovation process.

The jury is still out, of course, on how productive these centers will be. But if they do turn out to be effective, the potential payoffs are large, and it is for these reasons that I support these interdisciplinary ventures.

It is for the same reasons that I urge this committee to protect and defend the proposed increases in R&D at colleges and universities, especially to support what has become known as, "small science."

Only colleges and universities produce both new knowledge—which we all need—and new well-trained, well-educated people, which we equally need.

In sum, I applaud the growth, albeit modest, in the R&D budget for fiscal year 1989. I have expressed some concerns, but with these caveats, I support the President's proposed R&D program. Thank you.

STATEMENT OF DR. GILBERT S. OMENN, M.D., Ph.D., PROFESSOR OF MEDICINE (MEDICAL GENETICS) AND OF ENVIRONMENTAL HEALTH, AND DEAN, SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF WASHINGTON, SEATTLE, WA

Dr. OMENN. Thank you, Senator Danforth. I am very pleased to join you and your colleagues, and Dr. Branscomb and Dr. Buchsbaum, for this hearing.

The advances of scientific and engineering research and the applications of knowledge and techniques in all aspects of modern life are critical to our standard of living, our security and our health.

In this country, and elsewhere, as we have noted already, the capability to address basic and practical research programs is growing rapidly. Doing good science, training adequate numbers of scientists, engineers, and technicians, informing and involving the larger public, and applying the fruits of our efforts all require resources.

In many areas, notably basic research, those resources must come from the Federal Government.

All of us are aware that resources are limited, that discretionary budgets are under extreme pressure, that the runaway deficits of the past several years are intolerable.

A return to high inflation is at least as devastating to the scientific enterprise as to others on limited incomes. I respect and welcome your focus on priority-setting and on the capacity of the executive branch to manage the Federal role in science and technology.

In addition, I would like to encourage the Congress to take certain initiatives in the budget process that could be helpful. Clearly the scientific community shares with Members of Congress a consuming desire to make available dollars as effective as possible. There are at least three actions I might cite.

The first is to complete the budget and appropriations process on time. I know you all would like to conclude this process in an orderly fashion, but it should be emphasized that the uncertainties, when a new year begins without a clear budget, engender wasteful paperwork, a lot of misunderstandings, readjustments, and big dollars costs.

Second, it might possibly be timely to consider a biennial budget for the Federal Government. The States commonly do this. I know it is a time-worn notion routinely rejected here, in Congress. Nevertheless, the remarkable agreement on budget parameters for both fiscal 1988 and fiscal 1989 in the November summit suggest that it might be timely to reconsider this matter.

Third—and I am pleased that Senator Chiles has returned—I think the Congress should encourage the Executive to expand what has become known as the "Florida Experiment."

Under the leadership from the Government-University-Industry Research Roundtable established by the National Academy complex, and with full cooperation from the major R&D agencies, the Florida experiment was established, involving nine institutions in the University of Florida system and the University of Miami. Five major R&D agencies authorized those institutions to have decentralized authority for quite significant post-award budget decisions, within the grant periods, and across funding lines.

The result is that more responsibility and accountability have been laid on the recipient, with significant efficiencies in time and dollars. I am hopeful that this Florida experiment will be extended and expanded. The Budget Committees, as well as the Appropriations and Authorization Committees, could highlight and evaluate this experiment in research administration.

We are often asked whether there is a national science policy, and do we need a cabinet department of science and technology. In fact I think it is a common lament in hearings about complex areas of public policy, that the country lacks a science policy, a health policy, a defense policy, an energy policy.

We are of course urged to identify our objectives, and have a better sense of where it is we are trying to lead the country. I am reminded of the criticism of Christopher Columbus, that he did not know where he was going when he set out, he did not know where he was when he got there, and he did not know where he had been when he got back!

Well, that is a fair caution for a lot of things we do in our own local environments, and of course that goes on nationally.

But I do think we have a fairly coherent national policy about science and technology. Briefly stated, we consider support for science and technology an investment in the Nation's future. We have a reasonably clear definition of Federal and private-sector responsibilities. I have outlined this policy in the accompanying text.

I think we also have a bipartisan consensus that our investment in research and development is best carried out within a pluralistic framework of supportive Federal agencies.

I am generally opposed to proposals to lump all the research agencies and components of large departments together in a big cabinet department, for two reasons.

The first is that the mission agencies really should make substantial investments in relevant basic research fields, and in applied research and development necessary to their mission.

It is more appropriate to evaluate the investment in research within the overall budgets of most big departments than the investment in one field against another. As I will note later, several agencies need some prodding from the Congress and from OSTP.

A second reason is that centralization of the budget, and management of all research agencies in a common cabinet department, might undermine a very valuable feature of our system, namely, that an individual researcher or institution is not limited in options to the views of one agency with one leader.

How can the executive branch better coordinate and stimulate R&D? Science and technology are so important to achieving the goals of any President, any administration, any Congress, that leadership in S&T really must be derived from the President and the executive branch.

The President has an appropriate cross-cutting mechanism for advice, for priority-setting, for stimulation of unassertive agencies, for bridging across agencies in the way that Dr. Buchsbaum and Dr. Branscomb suggested, for reaching out to the scientific and engineering communities, and for communication with the Congress.

It is the Office of Science and Technology policy. It has a checkered, but very rich history, which I have summarized briefly in the text.

During the period I was involved in the Carter years, under the leadership of Frank Press, OSTP was a notably effective force. In fact an insightful observer of the executive branch, Bill Carey, well-known to all of you, gave special emphasis to the role of OSTP as a regular advisor and occasional arbiter in agency/OMB, and interagency debates and decisions.

Early in that administration, Dr. Press secured explicit instructions from President Carter to review the state of basic research and the Federal support for basic research. The crucial shrewd step he took was to make the review a joint OSTP/OMB process, cochaired by Press and Bowman Cutter of OMB.

The landmark letter to all the departments and agencies was sent by the Director of OMB, not the Director of OSTP. Agencies were instructed to review basic or long-term research needs in their agencies.

[The letter referred to follows:]

EXECUTIVE OFFICE OF THE PRESIDENT
Office of Management and Budget
Washington, DC 20503

August 15, 1977

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

SUBJECT: Funding of Basic Research

The President has expressed his interest in having Federal departments and agencies examine their research and development programs to assure an appropriate balance between basic or long-term research and shorter-term applied research and development. The President is particularly concerned with the identification of critical problems currently or potentially faced by the Federal Government where basic or long-term research could assist in carrying out Federal responsibilities more effectively or where such research would provide a better basis for decision-making.

An example would be the recent efforts to strengthen the basic research program of the Department of Agriculture which could lead to breakthroughs in a number of problem areas, including reducing the vulnerability of crops to insects and diseases through genetic engineering. Another example would be research to improve our understanding of scientific phenomena that underlie various regulatory decisions of the Federal Government (e.g., the setting of air quality standards).

We are asking that in the context of developing your 1979 budget you identify whether there are specific problems in your area of responsibility that might be better addressed through basic research and then use the results of your review to determine whether available resources can be better applied to basic or long-term research associated with those problems. In so doing, you are urged to look carefully at your existing R&D programs to see whether there are areas where tradeoffs can be made, taking into account, for example, the effectiveness of current R&D efforts, and the need to avoid research, development and demonstration activities that might more appropriately be left to the private sector.

There is a tendency to defer needed basic or long-term research to meet more pressing near-term problems. We urge that in developing budget proposals for your agency you take a balanced view in dealing with your R&D programs and be sensitive to this tendency. Of course, we expect that you will apply the same rigorous zero-base budget review to basic research programs that you are applying to other programs in your agency.

(details of format omitted)

Bert Lance
Director

Dr. OMENN. With support from the President, OSTP and OMB worked together to evaluate the basic research submissions from the agencies and departments, and to challenge agency heads to be more responsive to the charge to support research in their fiscal year 1979 budget submissions—a decade ago.

President Carter went out of his way to acknowledge that President Ford had already started to reverse the declining trends of support. I believe that that effort to make this policy a bipartisan stance underlies the strong efforts of the Reagan administration to enhance basic research in most areas and especially, in recent years, in the NSF.

Dr. Branscomb, through the National Science Board, and Dr. Buchsbaum through the White House Science Council, have been very important advisors to this administration.

Senator DOMENICI. Would you pull the mike down just a little bit, please.

Dr. OMENN. Thank you.

Nevertheless, OSTP, in the Reagan years has had less apparent support from the President and from senior advisors than was the case previously.

What can be done to enhance the role of OSTP? This question is often asked out of frustration. The special value of OSTP is its place in the Executive Office of the President, and its Director's role as the President's science and technology advisor.

As all of you fully appreciate, it is impossible for the Congress to mandate, let alone enforce, a positive and important relationship between the President and one of his White House staff assistants, and among presidential assistants. It is essential that the President's Science Advisor function as a close advisor, yet maintain reasonable accessibility to Congress, and to the scientific community. It is important that he, or she, be seen internally, and be appreciated externally as a hard-nosed evaluator of priorities, and an insightful initiator or advocate of well-selected major proposals.

He must not be viewed as a special pleader, someone not adequately cognizant of the overall priorities and constraints of the administration and the President's program. It is a tall task.

Especially in these technical areas, it is important to identify outstanding candidates for leadership positions in the executive branch. As we look forward to a new administration, I think Members of Congress can be especially influential in that process of identifying the attributes of candidates for key positions, and potential candidates.

Now a crucial question. Is the budget really a zero-sum game in science and technology? Most of us scientists are pretty naive about Congressional budget-making processes, but I think Governors who have invested heavily in competing for the superconducting supercollider, and the companies which have invested in competing for and lobbying for a space station, do not view these projects as strictly science projects, or even mainly as science projects, or as competitive with basic and applied research in other domains.

These large projects are seen as parts of much larger agendas aimed at economic development and international prestige. Yet in the budget-function world, these large projects appear in function

250, and seem to be treated as direct tradeoffs against other activities of these largely R&D agencies.

With regard to the NSF, I would like to compliment Erich Bloch for providing strong leadership for the full array for NSF programs. Given the good experience with the Engineering Research Centers and the level of interest in multidisciplinary Science and Technology Centers, resistance to these S&T centers would probably be much less, though not negligible, if the individual investigator-initiated research were enhanced as well.

NSF, after all, has the special responsibility for basic sciences, across the board. Its efforts over the years to organize and contribute to the more applied areas have had mixed reviews, and inevitably are closer to the roles of the mission agencies.

Mr. Bloch, faced with only a modest increase for fiscal year 1988, and with significant earmarks within that increase, wisely deferred funding for the S&T centers, respecting the primary role and primary constituency for NSF.

His argument that the NSF budget is too small, relative to the total R&D budget of the Federal Government, deserves more attention in the Congress. He seems to have made that point within the administration.

I believe the public has a favorable impression about the value of basic research as an investment in the Nation's future, and would be supportive of such congressional action.

Among the much-publicized big-ticket projects is the Human Genome Mapping, sequencing the DNA in human chromosomes, an area in which I have some experience. I know that some of you, of course, have a tremendous interest in this exciting area, but I will save that for questions, if there are any.

Are there agencies which should be challenged to enhance their research investments? Yes, indeed. In the written testimony, I have suggested specifically EPA, USDA, and the Health Care Financing Administration. HCFA is a huge, huge agency with billions of dollars in consequences to the Federal budget from their decisions, yet a negligible research effort. I also have a few suggestions about NASA. I also think there is a need for behavioral and social science research, not only in those agencies, but also in agencies we do not usually identify as research participants, like HUD, Labor, Agriculture, (feeding programs), and some other departments.

Finally, a comment on competitiveness. I share your interest in mobilizing our scientific and technological prowess to maintain and enhance our competitive position in an increasingly global economy.

I do worry, however, when rhetoric seems to suggest that R&D can be the major source of our success. My summary advice is that research and research training are essential to our position in the global economy, but far from sufficient.

We must be sure that all understand that many other factors such as health care costs, environmental regulatory requirements, export controls, and the cost of money are extremely important to the bottom line for companies, and especially so in the short-term. And we must hear those knowledgeable voices from the business community itself who decry the short-term outlook of too many corporate decisions.

In conclusion, these are challenging and exciting times. The changes in the world around us put an increasing premium on a well-educated, well-motivated work force, on a rapidly advancing knowledge base, and on enlightened business, labor, and governmental leadership.

It is essential to examine decisions within broader contexts, both financially and geographically. The congressional budget process, with all of its problems, does provide a valuable framework for examining the objectives and priorities of our society, the appropriate and necessary roles of government, the levels of our Federal investments, and the effectiveness of selected programs.

I hope that this hearing and your related hearings on other components of the Federal budget will serve all of us well. Thank you.

[The prepared statement of Dr. Omenn follows:]

SENATE BUDGET COMMITTEE HEARING
ON SCIENCE & TECHNOLOGY POLICY MATTERS

16 March, 1988

Testimony of Gilbert S. Omenn, M.D.,Ph.D.

Professor of Medicine (Medical Genetics)
and of Environmental Health, and
Dean, School of Public Health
University of Washington
Seattle, WA 98195
206-543-1144
(brief bio attached)

Mr. Chairman and Members of the Committee, I am very pleased to join you and Dr. Branscomb and Dr. Buchsbaum for this Hearing. The advances of scientific and engineering research and the applications of knowledge and techniques in industry, health care, environmental protection, agriculture, defense, space, energy--all aspects of modern life--are critical to our standard of living, our security, and our health.

In this country and elsewhere, too, the capability to address basic and practical research problems is growing rapidly. Doing good science, training adequate numbers of scientists, engineers, and technicians, informing and involving the larger public, and applying the fruits of our efforts all require resources. In many areas, notably basic research, those resources must come from the Federal Government.

All of us are aware that resources are limited, that discretionary budgets are under extreme pressure, that the runaway deficits of the past several years are intolerable. A return to high inflation is at least as devastating to the scientific enterprise as to others on limited incomes! I respect and welcome your focus on priority-setting and on the capacity of the Executive Branch to manage the federal role in Science and Technology. In addition, I would like to encourage the Congress to take certain initiatives in the budget process that would be helpful.

ACTIONS CONGRESS CAN TAKE TO MAKE FUNDING MORE EFFECTIVE

The scientific community shares with you a consuming desire to make available dollars as effective as possible. There are at least three actions the Congress might take that would be very helpful. These suggestions would benefit many other constituencies, as well as those involved in science and technology.

1. Complete the budget and appropriations process on time.

The uncertainties which accompany delays in the beginning of each fiscal year are costly, both in dollars and in major frustrations. They engender lots of wasteful paperwork, misunderstandings between funding agencies and scientists and their institutions, and innumerable readjustments. No doubt you all would like to have the process concluded in orderly fashion, as well!

2. Consider a biennial budget for the federal government

This time-worn notion has always been considered impractical. Remarkably, however, the Congress and the Administration, in the November "summit agreement", have set the budget parameters for both FY88 and FY89. This step could be transformed into the beginnings of a biennial budget, with automatic first-year carryforwards and numerous other efficiencies. For the Congress, the alternate year would then be available for many other important policy actions and for review of procedures, as well as necessary adjustments in the budget. Many states, including my own State of Washington, function quite well with a biennial budget and interim adjustments. The Budget Committees and Appropriations Committees would have to seek common ground on this task.

3. Encourage the Executive to expand the "Florida Experiment"

The NAS/NAE/IOM Committee on Science, Engineering, and Public Policy (COSEPUP, of which I am current chair) issued a panel report in 1983 recommending a new forum for addressing problems in research administration. The Government-University-Industry Research Roundtable was established by the Academy complex with full cooperation from the major R&D agencies. One of its fruits is the Florida Experiment, under which the nine institutions in the University of Florida System and the University of Miami have been authorized by five major R&D agencies (NSF, NIH, DOE, ONR, USDA) to have decentralized authority for significant budget decisions within the grant periods and across funding lines. That is, more responsibility and accountability have been laid on the recipient, with significant efficiencies in time and dollars. Specifically, the five agencies adopted identical standardized procedures, including removal of most post-award prior approvals (except change in principal investigator, in institution, or in scope). Investigators can move dollars to needs within the total budget, incur costs up to 90 days before the award date, carryover unspent balances within the grant period, and extend expenditures over 12 months after the end of the grant period without agency prior approvals. The OMB has set up a Review Committee chaired by Bill Raub of NIH. I am hopeful that this Florida Experiment will be extended and expanded. The Budget Committees, as well as the appropriations and authorization committees, could highlight and evaluate this experiment in research administration.

DO WE HAVE A NATIONAL SCIENCE POLICY? DO WE NEED A CABINET DEPARTMENT OF SCIENCE AND TECHNOLOGY?

A common lament in Congressional Hearings about complex areas of public policy is that the country lacks a science policy...or a health policy, or an energy policy. I believe we do have a fairly coherent national policy about science and technology.

Briefly stated, we consider support for science and technology an investment in our nation's future, and we have a reasonably clear definition of federal and private sector responsibilities. We know that prime responsibility for support of basic research, notably university-based research, lies with the federal government. We consider responsibility for applied research and development to be shared by the federal government (and state governments) and by the private sector. The division of responsibility depends upon the philosophy and priorities of a given Administration. Nevertheless, R&D funding for military, intelligence, and space programs and for health and environmental protection clearly lies with the public sector. Funding R&D for commercial products and processes rests with the private sector, with the federal government occasionally modifying tax, anti-trust, procurement, regulatory, and patent laws and policies to offer incentives for the private sector or reduce barriers. The agricultural, health care, natural resources, and energy sectors represent mixed public and private efforts, with substantial swings from time to time reflecting political priorities.

I believe we also have a bipartisan consensus that our investment in research and development is best carried out within a pluralistic framework of supportive federal agencies. From time to time, there have been proposals to create a Department of Science and Technology, or Science, Technology, and Trade--presumably combining NSF, NBS, NOAA, NASA, NIH, and the science base in Energy, Defense, EPA, Agriculture, and Interior in some fashion. I am opposed to such proposals for two reasons:

1. The mission agencies should make substantial investments in relevant basic research fields and in applied research and development necessary to their mission. It is more appropriate to evaluate the investment in research within the overall budgets of most big departments than the investment in one field against another. As noted below, several agencies need some prodding from Congress and from OSTP.

2. Centralization of the budget and management of all research agencies in a common Cabinet Department would undermine a valuable feature of our system, that an individual researcher or institution is not limited in options to the views of one agency with one leader. Applicants may be able to gain funding for a good R&D project from one agency even when one or more other agencies have failed to support it. It is true that the proposal must be judged relevant to the funding agency, and that does restrict opportunities, but enterprising applicants are resourceful in arguing that a certain initiative may have potential value!

HOW CAN THE EXECUTIVE BRANCH BETTER COORDINATE AND STIMULATE R&D?

We live in an increasingly technological world. Technology affects our international economic position, our national defense strategies, the status of our health and environment, and our degree of satisfaction with our own lives. Science and technology are pervasive elements of all agencies' missions. Science and technology are important to achieving the goals of any president, any administration, any Congress. Leadership in S&T must be derived from the President.

The President has an appropriate cross-cutting mechanism for advice, for priority-setting, for stimulation of unassertive agencies, for reaching out to the scientific and engineering communities, and for communication with the Congress. It is the Office of Science & Technology Policy. Beginning with Vannevar Bush's advisory role to President Truman, reaching high status with George Kistiakowsky in the Eisenhower years and Jerome Wiesner in the Kennedy years, the predecessor Office of Science & Technology was a significant White House staff function. President Nixon abolished OST, but Congress mandated its recreation as OSTP with the Science and Technology Policy Act of 1976. In the Carter years, under the leadership of Frank Press, OSTP was a notably effective force. An insightful observer of the Executive Branch, Bill Carey, gave special emphasis to the role of OSTP as regular adviser and occasional arbiter in agency/OMB and interagency debates and decisions.

Early in the Adminstration, Dr. Press secured explicit instructions from President Carter to review the state of basic research and of federal support for basic research. Press had enlisted the interest of the Vice-President, the Domestic Policy Adviser, and several Cabinet members. The crucial, shrewd step was to make the review a joint OSTP/OMB process, co-chaired by Press and Bowman Cutter, head of the budget side of OMB. The director of OMB (not the head of OSTP) sent a landmark letter (15 August, 1977) to all departments and agencies, instructing them to review basic or long-term research needs in their agencies. The review took the form of a series of small seminars; industrialists were especially important advocates of university-based research, since they were viewed as not benefitting so directly as the university-based folks. The effects of this process were to identify clearly the primacy of the federal role in support of basic research and the importance of universities' institutional viability to support the environment for such research. With support from the President, OSTP and OMB worked together to evaluate the basic research submissions from the agencies and departments and to challenge agency heads to be more responsive to the charge to support research in their FY79 budget submissions.

President Carter chose the occasion of the presentation of the National Medals of Science to announce publicly his conclusions from this review and his commitment to enhance the investment in basic research. He went out of his way to acknowledge that President Ford had already started to reverse the declining trends of support. I believe that that effort to make this policy bipartisan stance underlies the strong efforts of the Reagan Administration to enhance basic research in most areas and especially in recent years in the NSF. Dr. Branscomb, especially through the National Science Board, and Dr. Buchsbaum, through the White House Science Council, have been important advisers in this Administration.

OSTP in the Reagan years has had less apparent support from the President and from senior advisers than was the case in the Carter years. The establishment of the White House Science Council was a good step, but its very limited inclusion of scientists outside the physical sciences was unfortunate. OSTP launched a number of initiatives, including those to highlight challenges facing the national laboratories, the Bromley/Packard report on institutional needs of universities, and interagency coordination of the regulatory environment in biotechnology. Nevertheless, the important role of OSTP in OMB processes seems not to have been sustained. Since Jay Keyworth's resignation, the activities of OSTP have been even less apparent.

WHAT CAN BE DONE TO ENHANCE THE ROLE OF OSTP?

This question is often asked out of frustration. The special value of OSTP is its place in the Executive Office of the President and its Director's role as the President's Science and Technology Adviser. As all of you fully appreciate, it is well-nigh impossible for the Congress to mandate, let alone enforce, a positive and important relationship between the President and one of his White House staff appointees, and among the Presidential Assistants. It would be desirable for the Science Adviser to be a full Assistant to the President, but that symbolic and pragmatic decision rests with the President. It is essential that the Science Adviser function as a close adviser to the President, yet maintain reasonable accessibility to Congress and to the scientific community. It is important that he or she be seen internally and be appreciated externally as a hard-nosed evaluator of priorities and an insightful initiator or advocate of well-selected major proposals. He must not be viewed as a "special pleader" not adequately cognizant of the overall priorities and constraints of the Administration and the President's program. It is a tall task!

Congress does have the annual responsibility to provide oversight and appropriate a budget for OSTP. Those hearings and decisions provide some opportunity to evaluate the role and, if warranted, enhance the resources of OSTP.

More broadly, as we look ahead to a new Administration, I am part of a bipartisan group of former government officials now in the private sector (I'm a token academic), called the Center for Excellence in Government. Co-chairs are William Morrill of Mathematica, Scotty Campbell of ARA Services, and Paul O'Neill of Alcoa. The Center is trying to influence presidential candidates and their advisers to think ahead to governing, even while they are consumed by the challenge of winning the nomination and then the election. Especially in technical areas it is important to identify outstanding candidates for leadership positions in the Executive Branch and to describe the nature of what those positions are or should be. No doubt Members of Congress can be especially influential in such a process.

IS THE BUDGET REALLY A ZERO-SUM GAME IN SCIENCE & TECHNOLOGY?

Within the scientific community it is very difficult to elicit knowledgeable views about the relative merits of investing in biology versus physics versus environmental chemistry, or other fields. Within the National Academy complex, and reflected in the annual Research Briefings that have been produced under the aegis of the Committee on Science, Engineering and Public Policy (COSEPUP), we scientists are ready to tackle tough questions about the most promising opportunities within specific fields or problem areas. The debate may go beyond scientific matters, of course, as in the debate over "big-science" and "little-science" among physicists seeking or opposing funding for the superconducting supercollider (SSC). The opposition would probably vanish if there were a magical source of funds that would support that project without taking resources away from other subfields of physics. Most of us scientists are pretty naive about the Congressional budgetmaking process.

I think the governors who have invested heavily in competing for the SSC and the companies which have invested in competing for and lobbying for the space station do not view these projects as strictly science projects, or as competitive with basic and applied research in other domains. These large projects are seen as parts of much-larger agendas aimed at economic development and international prestige. Yet in the budget-function world, these large projects appear in function 250 and seem to be treated as direct tradeoffs against other activities of these largely R&D agencies. Within the NSF, Erich Bloch has provided strong leadership for the full array of programs. Given the good experience with the Engineering Research Centers and the level of interest in multidisciplinary Science & Technology Centers, resistance to S&T Centers might be much less (though not negligible) if the individual-investigator-initiated research were enhanced, as well. NSF has a special responsibility for basic sciences across the board; its efforts over the years to organize and contribute to more applied areas have had mixed reviews and, inevitably, are closer to the roles of the mission agencies. The proposed budgets for FY88 and again for FY89 for NSF do, indeed, seek to do both. Before the October 19 stock-market shock NSF seemed to have good prospects of making budget progress on both fronts. Mr. Bloch, faced with only a modest increase in budget for FY88 and with significant earmarks within that increase, wisely deferred funding for S&T Centers, respecting the primary role and primary constituency for NSF. His argument that the NSF budget is too small, relative to the total R&D budget of the federal government, deserves more attention in the Congress. He seems to have made that point within the Administration. I believe the public has a favorable impression about the value of basic research as an investment in the nation's future and would be supportive of such Congressional action.

Among the much-publicized big-ticket projects is Human Genome Mapping, sequencing the DNA in human chromosomes. In part, this initiative reflects an internal challenge of the Dept of Energy, seeking to claim an exciting project in what is essentially well-established NIH territory. Given my support for pluralism of funding, that cannot be a major objection. In fact, from the narrow viewpoint of molecular biologists, the entry of DOE as a potential major funder may be additive to NIH and NSF support. Yet it is likely that major DOE funding in this direction would be accompanied by cuts in other fields with long-standing relationships with DOE. Moreover, the leading scientists in the field have issued yellow flags about the cost and the timetable. I strongly support the notion that we should continue to proceed expeditiously, as we have, to make major improvements in sequencing technologies and in data-handling technologies. These steps will not be so expensive as to require special appropriations actions, and they will soon reduce by an order of magnitude or more the cost of proceeding to map genes and sequence DNA for the whole human genome. Nevertheless, that is not the primary goal; the sequence of genes only makes us want to know more about how the genes function, how abnormalities in the genes lead (sometimes) to illness, and what other factors influence how the same gene change will be manifested in different people.

ARE THERE AGENCIES WHICH SHOULD BE CHALLENGED TO ENHANCE THEIR RESEARCH INVESTMENTS?

As noted above, research is a crucial responsibility of essentially every large department. They cannot rely entirely upon NSF for basic research support, and they must have a science base for their applied research and development efforts. Thus, 6.1 and 6.2 funds in DOD should not be sacrificed or be dissociated from the technology-push we consider essential for maintaining national security. EPA cannot hope to have a sound program of environmental protection without an adequate base of research, a problem well recognized by certain Congressional committees. USDA must go beyond its time-tested collaborative research stations and extension services to tap the tremendous potential of modern basic research for agriculture; that agency has been underinvesting, as well. The Dept of Health & Human Services, with the very strong and long-sustained support of the Congress, has had good growth in NIH budgets--and excellent payoff from those investments. Of course, as Dr. Armand Hammer has dramatically pointed out for cancer research, more funding could be well-spent. However, other parts of the health mission of DHHS have been neglected in terms of research, especially the huge Health Care Financing Administration (HCFA), which currently spends more than $100 billion per year in budget functions 550 and 570. It has had a research budget of only $20-30 million per year. HCFA struggles with a chronic lack of obtainable information and underlying methodology to address questions with billions of dollars in consequences for the federal budget. With a larger research base, HCFA could use its waiver authorities to carry out much-needed trials and demonstrations of alternative payment mechanisms, assessment of quality of care, and incentives for access and for prevention. Like the research-oriented agencies, HCFA would have to make good use of peer review to assist its decisions. There has been resistance for many years both in the Congress and in OMB to increases in HCFA research; the matter should be surfaced and addressed. The Centers for Disease Control also need a larger investment in research; thus far, the infusion of funding for AIDS-related work has only served to limit or reduce support for other important disease prevention activities. NASA has shortchanged its space science programs, largely due to budget pressures from the shuttle program, and NASA has failed over the years to carry out sufficient research conditions for humans to survive and function well in space, thereby bringing into question our preparedness for life and work in space stations. In the natural resources area, economic distress in the petroleum industry and in the forest products industry during recent years led to sharp cuts in in-house R&D and in support for university-based research. The federal agencies did not mount a much-needed countercyclical effort. All of these are good topics for Congressional assessment. In addition, major social services programs in DHHS, HUD, Labor, USDA, and other departments need to take advantage of opportunities to invest in behavioral and social science research important to their mission. I will leave energy research and other areas to my colleagues on this Panel.

A COMMENT ON COMPETITIVENESS

I share the interest of many of you in mobilizing our scientific and technological prowess to maintain and enhance our competitive position in an increasingly global economy. I do worry, however, when rhetoric seems to suggest that R&D can be the major source of our success. The Carter Administration had an elaborate review of innovation, with lots of proposals, many outside R&D in the patents, tax, procurement, and regulatory arenas. The Reagan Administration has focussed even more on economic competitiveness. Within COSEPUP, reflecting encouragement from the National Academy of Engineering and particularly from Ralph Gomory of IBM, we have recently emphasized what has been termed "reduction to practice". Essentially, we are eager to stimulate companies to shorten the cycle for upgrading existing products and processes, beating the competition with frequent, often small increments of practical progress, not just hoping for "breakthroughs", which too often are more rapidly converted to practical commercial value by our international competitors anyway.

I might mention that COSEPUP also has issued major reports on the deleterious effects of certain national security policies and procedures that impair communication among scientists at meetings and exports of incredibly long lists of products by U.S. companies and their subsidiaries. We have advocated more interdisciplinary research to gain synergies from the remarkable advances in various separate fields of research. And we have recognized the crucial roles of behavioral and social sciences in understanding and improving corporate decision-making, productivity, and competitiveness in other cultures.

My summary advice to the activist state governments, to my colleagues at my own university, and to you is that research and research training are essential to our position in the global economy, but far from sufficient. We must be sure that we all understand that many other factors--such as health care costs, environmental regulatory requirements, and export controls--are extremely important to the bottom line for companies, especially in the short-term. And we must hear those knowledgeable voices from the business community itself who decry the short-term outlook of too many corporate decisions.

CONCLUDING REMARKS

These are challenging and exciting times. The changes in the world around us put an increasing premium on a well-educated and well-motivated work force, on a rapidly advancing knowledge base, and on enlightened business, labor, and governmental leadership. It is essential to examine decisions within broader contexts, both financially and geographically. The Congressional budget process, with all its problems, does provide a valuable framework for examining the objectives and priorities of our society, the appropriate and necessary roles of government, the levels of our federal investments, and the effectiveness of selected programs. I hope that this Hearing and your related hearings on other components of the Federal Budget will serve all of us well.

Chairman **Chiles**. We thank each of you for your statements, and I think we are very fortunate to have such a distinguished panel before us, and to have the expertise, the experience and knowledge you all have.

This year, we are faced with a request for large increases in the science program, and much of that request, as we noted, is in big science projects, about $1 billion requested for the space station, $366 million requested for the superconducting supercollider, and other facilities in the works like NASA's great observatory, the human genome project.

The space station alone is going to cost $20 to $30 billion over the next 10 years, and about $1 billion a year in operating costs.

The supercollider is going to take 8 years, almost $6 billion in development costs, and more than a quarter of a billion in annual operating costs.

We know that these are all worthwhile projects, and they are all scientifically important to meet our national goal. There is a concern, of course, which is if we commit to them do we reduce our flexibility down the road to look at other important projects, and will these lock us in?

Are there safeguards needed to balance between the sort of big science and little science programs?

Dr. Branscomb, how about you taking a whack at that, if you would, please.

Dr. **Branscomb**. I do not believe there is any arbitrary criterion based on relative bigness that tells you the right balance of big and little. I think the problem we have is that in the area of—I agree with Sol Buchsbaum, that in the basic research area, to which all of the agencies should contribute, and most do, one can compare and balance those investments.

The problem arises with big projects, some of which are big science, some others of which are difficult to call that, although they are categorized as basic research in the budget.

The space station, for example. Dr. Omenn characterized these large projects as being intended by their advocates at State level to meet a national prestige and an economic competitiveness goal.

I think we have to look very sharply at what the real justification is. To the extent that people believe that those projects have something to contribute to competitiveness, then there should very clearly be a tradeoff made between that aspect of the investment, and alternative ways of encouraging competitiveness. I am 100 percent with Buchsbaum on the issue. If I had my choice, and the issue was competitiveness and not national prestige, then I would not invest in a space station. I would invest in engineering education.

I would invest in areas of research, in materials and processes, in useful knowledge, that are the grist for industrial progress.

So, the real issue I think is not the relative amount of big versus little. It is to subject the big projects to very serious level-headed scrutiny, as any good manager would. A private company making an investment equal to the company's revenues for a year is going to really wring the project out, and I questioned that all of these big projects have equal standing in that regard.

Chairman **Chiles**. Dr. Buchsbaum.

Dr. **Buchsbaum**. Well, I agree with Dr. Branscomb's statement in part. He divided the issue, wisely, into big projects that are needed for basic science.

Senator **Danforth**. Doctor, could you speak right into your microphone, please.

Dr. **Buchsbaum**. Yes; he divided, wisely, those big projects that are needed in basic research, and those other big projects that are needed to, ostensibly, to meet the mission goals of a particular department or agency.

And as I indicated in my remarks, basic research does have to be looked at in its totality, to look for overlaps and voids, and for coherence and balance.

That is now beginning to be afoot, but there is a lot more to be done, can be done, as I indicated in my remarks, and I think there is a mechanism existing in the government for it, that has not been exercised as fully and as effectively as it might have been, and that is the Federal Coordinating Committee for Science Engineering & Technology, (FCCSET) chaired by the science advisor, and staffed by OSTP.

On the other large projects like the space station, and like the aerospace plane, et cetera, those have to be looked at as part of the balance within the programs of each of the mission agencies.

And you cannot really trade off one against support for more money for NSF, because these are apples and oranges, in my view.

Dr. **Omenn**. I would like to add one caution. With these long-term big-ticket projects, all of you who specialize in the Budget Committee realize that very often the way to get a big project, at least get it on the proposal list, is to under-estimate the costs. Sometimes, the appropriation underestimates the cost as well and we have such troubles as we have experienced with the shuttle, and with some other programs.

This is a very serious problem. It is human nature to try to trim the estimate to make it acceptable. This is done in our daily lives, and it is done on these big schemes. I think we should be very careful to review the budgetary justification, the contingencies, and all the projections of operating costs as well as capital costs before accepting these estimates and planning long-term commitments for the Federal budget.

Just as Dr. Branscomb has emphasized that the scientific and engineering rationale should be scrubbed at least as aggressively as we review small projects, I think the budget needs special attention, even more attention than we give to the small projects, even in proportion.

Dr. **Buchsbaum**. And this is a very good point. Mr. Chairman, you pointed out that the operating costs for the superconducting supercollider will run a quarter of a billion dollars a year. Development cost is estimated at $6 billion a year.

You know, when you build an ordinary building, an apartment house, it costs about 10 percent per year of the cost to keep it up, to maintain it, heat it, and so on. $250 million is much less than 10 percent of $6 billion.

Chairman **Chiles**. Yes; Dr. Branscomb?

Dr. **Branscomb**. I have a shade of difference with my friend, Sol Buchsbaum, about the question of—the extent to which large projects are traded off against other investments by the same agency, perhaps on non-R&D investments, versus being traded off against alternative R&D programs.

If an agency has a large project, and it is quite clear that the justification that it presents to Congress for this project is simply that it is necessary to fulfill the clear and agreed-upon mission of the agency, then I think he is absolutely correct and I have no doubt about that.

It does not make any sense to trade off the investment of an MX missile against a supercollider, because the Department of Defense either should or should not have an MX missile, and if it does, it is trading it off against the Air Force, the Army, and the Navy, other projects.

But other projects of we have many examples here, like the space station, like the aerospace plane, like the shuttle itself 15-20 years ago, are advanced with rather nebulous purposes—partly prestige, which are very difficult to evaluate, though necessarily important—and partly some generic notion that this is important for the technological health of the country.

When that argument is placed before the Congress, and Members of Congress are required to decide whether to vote a lot of money for a big project, and they hear that the reason you should do that is because it helps technological competitiveness—Dr. Omenn just said they do, or at least Governors believe they do—then I believe the Congress itself makes the tradeoff in the Members'own heads.

That is, they say to themselves, look, I have voted $5 billion towards the space station. Why aren't you engineers and scientists out there satisfied? We are investing all this fine engineering. Isn't it doing what the country needs?

The answer is nobody ever made a crisp decision on whether that project was intended to meet a justification in terms of what it contributes technologically to American industry, or not.

Chairman **Chiles**. I wish you would use another example besides the space station. You know, you are kind of meddling now.

Dr. **Branscomb**. Well, let me just clarify my view on the space station. I am not opposed to the space station. I am in favor of a space facility in which we can learn how to do space engineering.

I think we should define its engineering goals and we should design a space station to achieve those goals, and it is not obvious to me it would cost $35 billion.

Dr. **Buchsbaum**. I agree with Dr. Branscomb. A mission agency ought to, first and foremost, justify large projects, or any projects, for that matter, on the basis of its mission.

When it uses arguments that go beyond its acknowledged mission, then it is on a very slippery slope, and those arguments need to be questioned, and questioned very thoroughly and severely.

Senator **Domenici**. Let me just say to the panel, I am very apologetic, but I have a conflicting meeting with the Republican leadership and I must leave very shortly.

I am just going to submit a series of questions to you all. But first I would like to just make two observations and ask you for a quick comment. First, let me suggest that frequently, we look around for research areas, and we really ignore very basic needs, and go to something else more complicated.

Let me just give you an example. You are aware of Sandia National Laboratories' involvement in the technology of oil and gas production and basic coal research.

Now nobody, really, around the country knows they are experts at that. Actually, they invented a new drill bit during the energy crisis, so you do not have to pull the diamond bit up every time it gets dull. They did that.

They did that up there where they invent and design safety for nuclear bombs. But I was riding down from Santa Fe, Mr. Chairman, after our hearing, and Dr. Welber, who runs Sandia Laboratories, said, it is really frustrating when in order to make a proposition to policymakers in this country, I have to put on a Japanese hat.

I asked him what he meant. He said, well, would you listen to me for a minute. He said that on energy, I would like to suggest that we ask ourselves what would the Japanese do if they were 50-percent energy-dependent, and had all the coal in the world, and still had not even scratched the surface on getting oil and gas out from under the ground. Had huge tar sands, and other deposits. What would they do?

And I said, well, I guess at the minimum they would not take lightly the notion of being energy independent in 25 or 30 years. He said no, that is way too weak. The Japanese would say in 30 years we will be exporters of energy. Here we sit in the areas of energy R&D, including fossil fuel evolution. We do little, or nothing, and we spend $1.800 million on a current technology of cleaning up coal so we can burn it in the current furnaces of the United States.

Just as an observation, we need to be looking at many things, but it seems to me that we ought to use some of our talent, some of these kinds of goals, and I do not really think we have any excuse for being as ridiculous with reference to priorities as that.

Now I am not going to ask for comment. I am going to make one more observation.

Let me say to you, Dr. Branscomb, I think you have hit the nail on the head with reference to the future, and the need to totally reorganize our efforts in research and science at the national level.

We have a natural tendency to continually build on what we have got. The worst example in the world is foreign aid. We start a new effort to assist foreign countries, and we say we have had a program in effect for 30 years, let's just add to it.

We are doing the same thing with reference to NSF, the Department of Energy, NIH. They are there. So we are getting nothing new except trying to send them to do new missions and put new money in. I think one of the most exciting activities for the next President would be to take the challenge that you all are suggesting, and really take a broad-based look at what we have got going in the fields of science research. I think only a President is going to be able to bust through the jurisdictional issues up here, and the vested committee interests, and the vested program interests, and suggest something based around a science advisory team that is for real, and see if we cannot put it together in a different way.

Now, having said that, I want to make one last comment. I am amazed to find that we hear very little about the Department of

Energy as an instrument of science and engineering in this country. However, I understand that the largest manager of scientists in the world, other than the Soviet Union, in terms of numbers of scientists and engineers under one head, happens to be the Department of Energy.

If my numbers are right, they have 22,500 scientists and scientific employees within their jurisdiction in the 9 to 10 Federal laboratories. And I frankly believe we cannot continue to single-mission that kind of talent, and expect results in the American marketplace.

I am to the point of total frustration, when I see NIH, NSF, and DOE, and we cannot seem to marry anything up with the private sector and academia, at least as relates to that huge Department of Energy. And I will stop with that and say I truly believe we cannot waste resources that way for very much longer.

Now that does not solve the problem of encouraging young scientists, encouraging more Ph.D.'s, but essentially, we have already got the resource, and I might tell you—the laboratories are not having trouble recruiting the best. They are not civil servants so they do not have our pay limitations.

They all tell us they are getting the best scientists out of the universities because it is exciting research.

I will just close with that, and your testimony is not in for naught with this Senator. I am going to remain interested and enthusiastic. In fact I think it is the most exciting area in government today, to see if we cannot mobilize, in a much better way, the resources that we have.

My closing comment on NSF, and this administration, is this: they have, 3 years in a row, asked for substantial increases in programs like that, thus increasing what they perceive to be their domestic budget requests, only to find that we spend it somewhere else.

So, Mr. Bloch had a terrible problem, not because the administration did not agree to increases, but they would say why increase it? Congress is not going to go along with it. They will spend it somewhere else.

The President has nonetheless prevailed again, even though last year he put it in an increase, and we chopped it back. They have done it again. I am only hopeful we will get a part of these increases in the science area this year.

Dr. BUCHSBAUM. Why not all, Senator?

Senator DOMENICI. Well, because you have to cut too many domestic programs in other areas, and we may do it here or come close, but we will not get it done in the final process, because we will not want to cut mass-transit subsidies to pay for NSF, or to cut EDA to pay for some of these, or Appalachia Regional Commission, or some of the programs. Well, the President is recommending cutting Amtrak.

Do you think we are going to do away with Amtrak in order to pay for an NSF increase? And those are the tradeoffs. That is the point. I think we have a vote. We will be in recess for 5 minutes.

[Recess.]

Chairman CHILES. R&D tax credit has been mentioned in part of your statements. The tax credit currently has several flaws. It does not seem to help firms reverse a downward trend, or even a 1-year drop in R&D spending, and it does not apply to new firms, even though they are a major source of innovation.

Perhaps the worst problem is the new research spending in 1 year tends to reduce the tax incentive for R&D spending in later years.

How can we change, or what should we do to change the R&D tax credit to improve its utility? Dr. Buchsbaum, do you want to start with that one?

Dr. BUCHSBAUM. Well, I think it is very important, from the vantage point of where I sit in industry, is to recognize and incent industry to invest in R&D.

As Dr. Branscomb pointed out, a tax credit that recognizes that fact would be extremely beneficial. In talking to the CEOs of my company and other companies, that clearly, especially for basic research, where the payoffs to industry comes over many, many years—encouragement to make that kind of investment would be very beneficial.

And therefore, anything Congress can do to strengthen that, and slide it in the direction of greater credit for more basic research, and lesser credit for more applied research, would be useful. And that is the way I would try to find a balance between investment in the longer term, and development.

Right now it is R&D, and that makes no distinction whether it is basic research, applied research, development, engineering, product improvement, and so on.

I think Dr. Branscomb, in his testimony, made a similar point.

Chairman CHILES. Dr. Branscomb.

Dr. BRANSCOMB. The R&D tax credit which expired in 1986 had the feature that the credit was computed on the basis of the current year's R&D investment compared to a sliding 3-year average, and that did, indeed, have the feature that, unless you increased your R&D spending fairly dramatically every year, the credit ended up being pretty small.

And economists, like Ed Mansfield, would argue that it surely had very small leverage.

In point of fact, the company I used to be with was increasing its R&D by large amounts, and it did, indeed, have a big effect. I know that for a fact because I was in the meetings where the issue was debated with the chief financial officer.

In the current version, in the Tax Reform Act, it is my understanding that the current tax credit no longer operates against that sliding 3-year average. It operates against a fixed base.

However, in order to avoid a windfall credit for R&D the companies are already doing, there are formulas based in there that saw to it that no company would benefit very much in the first year or two, in comparison with the base year.

The answer, then, would seem to be to give the tax credit enough endurance, over time, so that you can reasonably expect to get to a point where the R&D level and the enterprise is significant compared to the base year.

I do not think anybody objects to the correction that is in the law to prevent you from getting a credit for inflation. That is appropriate to be normalized out.

Now secondly, I agree with Sol. In so far as you can design the credit to target, or to particularly benefit certain types of work, then one would like to design it to benefit the long-term investment in technical capability.

It is my belief that the world of science and engineering is changing a lot, and that there are long-term, highly scientific technical issues associated with manufacturing processes, as well as with ideas for new products.

And therefore, the distinctions made, using the conventional definitions of research, development, and production engineering, are really not very useful distinctions.

And one ought to be able to incent companies to make investments in figuring out how to change the whole production process.

That would involve a downstream engineering activity, not just R&D. There ought to be a way to include that. I will admit, however, that I do not believe any tax incentive can be allowed to get too complicated in its definitions, because it has to be implementable by accountants, tax lawyers, and the IRS staff itself. So, in that sense, the definitions have to be pretty simple.

Chairman CHILES. Dr. Omenn.

Dr. OMENN. Senator Chiles, I am a strong supporter of the intent of the R&D tax credit. I was educated by the Treasury Department and my OMB colleagues a few years ago, however, that it is extremely difficult to design the regulations accompanying these credits to assure that they even go mostly toward the intended purpose. It is a very difficult problem.

My colleagues here on the panel, of course, represent the two most outstanding corporations—IBM and AT&T/Bell Labs—in scientific enterprise. Tax credits get used mostly by accountants and financial officers, and very little by R&D officers, it seems to me, in many companies. Then there is the general problem of what to do with the younger firms, which in fact are very important elements of the entrepreneurial and innovative process.

In our own State of Washington, for example, we have a crazy tax system in which a big part of the corporate tax is a business and occupations tax based on production and inventory, so that you pay maximal tax rates before you make any profit at all.

In sum, I would say that the tax credit is a desirable adjunct, but it is an awfully blunt tool. And the Congress must calculate the opportunity cost of revenues foregone due to tax credits compared with well directed expenditures.

Chairman CHILES. We are delighted to have Senator Grassley join us. Senator, do you have some questions?

Senator GRASSLEY. Yes; just a few. From the standpoint of the funds in the budget that go towards encouraging scientific activity and research, or, I suppose you could look at it from the standpoint of even the tax incentive that we have, that you were just discussing—I would like to ask each of you if you feel that Federal science funding can be used to utilize in the assistance of regional economic growth.

And I ask that from the standpoint of being from an agricultural State. I have been interested and active in rural economic development, and have sought fairness in the distribution of Federal funds and programs, as a possible means towards this goal.

And you can answer from the standpoint that, you know, you think there is absolutely no connection and never should be, or the extent to which you feel that we are doing all right that way now, or we ought to do more to improve it. And I do not care who starts.

Dr. **Buchsbaum**. Let me start. If by science you mean basic research in science, then the fallout from that, and the benefits of it are worldwide. The nature of science of course is such that you cannot keep it bottled up in any region, and perhaps not even in any country.

On the other hand, the region or the State, or the city or the building in which this activity is conducted of course benefits directly the particular region because it brings people there, it brings people close to it, benefits sooner and so on, and so forth.

In that regard, obviously, the State of Massachusetts, or the State of California is perhaps somewhat better off than some of the other States where less of such work goes on.

So, depending on the field of science, there obviously are regional benefits, but I would not use those as the primary reason for doing a particular bit of research in a particular State.

You do it, in my view, where the expertise is, because spending money on science and basic research on science, without involvement of top-notch people, tends to waste the dollars that are spent.

Dr. **Branscomb**. I made reference in my testimony to the importance of a more constructive relationship between the Federal agencies and the States.

It is my belief that there is a large body of Federal research and development activity which, indeed, is not proprietary research, and is therefore, in that sense, fundamental or basic, but nevertheless, is in fields of research that are directly useful and important for industry or agriculture, or other economic activity.

And the question you pose is, when the Federal Government decides to make an award or to locate a facility, does it take into account more than the technical merit of the proposing institution and the importance of the work? Does it also take into account what it can do for the local economy?

That is an old and very important question. My feeling is that it does have an answer. That the answer is that the portion of the agency investment, that in fact has the issue of economic growth and competitiveness as an important element in its justification, should be managed in such a way as to exact the best leverage out of it. That means the Federal agency should take seriously into account what the State has organized to do, by way of being a partner in this enterprise.

That would provide, it seems to me, a criterion not based on geographical formulas, or some abstract notion of what equity in the distribution of R&D funds is.

It would enable you to stick to the notion that you are going to judge alternative investments by the probability that you get the final output you are looking for, but you take into account the fact that a major effort is being made by the community and the State to get that final effort, and if it looks realistic and practical, and meaningful, then you take it into account.

I made a passing reference to an episode that happened in the State of Ohio which jolted a few people. Governor Celeste gave a talk at the American Association for Advancement of Science meeting in Boston, and I had a chance to ask him about it.

It happens that NSF was establishing a major center for research, and were about to select an institution in Ohio, and a city in which they thought it would be a fruitful place to develop this kind of capability for industrial purposes.

Meanwhile, the State had its own plan in another city with a different university and they were both announced the same week, causing great embarrassment to both the State and the Federal agency.

And clearly, there is the opportunity here for the Federal agency not only to know what the States are doing, but to take into account the level of investment and effort the State is going to make.

Senator **Grassley**. Do you want to add to that?

Dr. **Omenn**. Yes; Senator Grassley. I am sympathetic to your question and your point. I would point out that in the State of Washington, my own home university, University of Washington, did not even have a medical school 40 years ago, yet for the last several years it has been either number one or close to number one in Federal funding every year. We rank first among public universities in R&D support, and fourth among all universities.

Such rankings are not across the board. There are some areas in which we excel, and some others where we do less. Iowa State University and the University of Iowa likewise have excellent programs in selected areas. I think around the country many institutions have selected areas of strength but not such breadth of strength as to appear on the lists of the most successful universities in competing for R&D support.

I agree with what the others have said, that from a national point of view, investment in basic research really does benefit everyone sooner or later, and the capacity to do it well has to count for the most. Basic research done poorly really sets us back, sends us chasing after findings that turn out to be wrong, or incomplete. A lot of time is lost, and lots of monies are lost, checking out things that turn out to be inappropriate. We have a very strong system in this country for evaluating basic research.

Then there is the applied research area where there are more interesting questions about spinoff. There are, in addition to the National Labs that Senator Domenici was speaking of, something like 700 Federal laboratories; these are, in some ways, an equivalent of military bases. They have been established, they exist, and it is a little hard to be sure why they are still where they are. For years, it has been suggested that there ought to be possible linkages between them and local and regional needs.

For the Federal Government this seems not to have worked very well. I second the notion that local initiative and State initiative really should be given maximal opportunity. We should free up the rules under which our Federal employees in these institutions work, and the agendas under which they work in some cases, and review it in a way that really tries to stimulate this kind of activity. Some of them probably ought to be clothed, or moved.

I also would point out that the benefits for the local economy take a long time to develop in some of these spinoff areas. I just flew here during the night last night, from California. I am a member of the board of directors of a wonderful biotechnology company Amgen.

Biotechnology is an area in which we see that the investment in basic research in biomedicine is having terrific potential payoff. Nevertheless, this company started in 1980-1981, with substantial funding, excellent leadership, terrific science, and this year—if FDA approves it on time–it will have its first product. This is 1988.

So the stretch from the best of research connected to good universities or in the research labs of companies or Federal labs, to a definable product, and jobs related to production as opposed to just pure research jobs, is quite a long-term investment. Many other factors I mention in my prepared testimony may be much more important, at least in the near-term, to the success of the local economy and the regional economy than just the R&D.

There has to be an environment in which companies can be effective and get organized, and get some resources to the bottom line. There has to be some control of health-care costs, so that those costs do not eat up whatever revenues are generated.

There has to be progress on environmental mediation, so that area a company that is producing chemicals or other products which have certain hazards is not hamstrung unnecessarily, but still is responsive to protecting the environment.

We have a problem about export controls for a company that is trying to compete in a global economy. We have a lot of hamstringing policies and procedures that trace themselves back to the Federal Government in most cases, where we could make a tremendous assist to local and regional economic development.

I would say that the science and technology, especially the basic science part of it, is best done on a highly competitive basis, and helping institutions to build up their confidence to compete.

One last comment. The National Science Foundation has a program of assisting the States that have the least present NSF funding. Of course they tend to be the lowest population States, but not always. As you may know in detail, they started I think with five States—and it became a dozen States. The notion is to help local institutions build capability in selected areas.

We launched an analogous initiative from OSTP a decade ago, working with traditionally black institutions. With Howard we helped their leadership identify a few scientists on the faculty who were already competing for grants, and for whom the institution could free up some of the time committed to teaching and find a few others to build a group. Laser chemistry was a special area in which they had expertise, and they were able to compete successfully in the present system.

In the case of Hampden Institute, the idea was to get together with NASA's installation in Langley, VA. That is to say, to build on areas where there is a real good nidus of excellence, and not just distribute the monies because there might be a formula. It is to everyone's benefit in the long-term, and the institutions locally grow best with that kind of a process.

Senator **Grassley**. I thank each of you. Thank you, Mr. Chairman.

Chairman **Chiles**. Thank you. Dr. Omenn, we see that R&D often has to compete within an agency pitted against other kinds of spending, rather than other areas of science and technology.

We think of R&D as kind of an investment. This type of organization creates two problems. First, the agencies many times are forced to cut their R&D investment and expenditures to cover operating expenses, and it makes it more difficult to see, overall, if we are allocating sufficient of our budget resources to R&D investment, according to a larger set of national goals.

Some people have proposed creating a national science budget, developed and submitted, and considered separately to deal with these issues.

From your experience, having worked in OMB for a while, what do you think the effect of such a step on the organization, the efficiency, or the coordination of the R&D effort would be?

Dr. **Omenn**. I have two comments. First, I think proposing a cross-cutting analysis--it might be called a national science budget--would be a tool with which the present Science Advisor and OSTP, and the Federal Coordinating Council that Sol Buchsbaum has mentioned twice, together with OMB, would be able to give much more visibility to the decisions and submissions of the various agencies. Depending on the attitude of the adminstration it might lead to requests or instructions to those agencies to neglect their R&D investments less, or to modify the balance within the R&D domain, between longer-term and short-term investments.

The second comment is that we do have a cross-cut analysis from OMB at present and another by the AAAS. am not sure we can do a whole lot better. You and your staff of course have worked on this issue very constructively with the Executive.

It is a difficult call, what should be labelled basic research, applied research, or development; the different agencies have different criteria. Within the National Institutes of Health, each institute has somewhat different criteria. It becomes such a definitional game that it probably should not be pushed beyond a useful point.

Chairman **Chiles**. Dr. Branscomb, there are several differences between the way our country organizes its research and development, and other industrial nations organize theirs. One of course is the striking difference between the highly pluralistic nature of our system considered with the centralization in countries like Japan and West Germany.

That seems to lead those countries to be more successful at responding to economic opportunity. An example. The Germans and the Japanese are already working on ways to use superconductivity in transportation and other areas. We seem to lag behind.

Should we move towards a more centralized system, and, if so, is it possible for us to do that? How would that be structured?

Dr. **Branscomb**. Well, there is no question that the pluralism that is associated with both the institutions that conduct research, and the sources of funding, of mission for doing research, is a strength, and that is something that we ought to retain.

I can remember, vividly, years ago, after spending a year of studying in the United Kingdom, and a period of time in the Soviet Union, being very grateful, indeed, for the pluralism of our research-supporting agencies, because in the centralized system it was too easy to make a serious mistake in not recognizing a new idea.

In the United States, the combination of pluralism and a good deal of wealth always found some place with the imagination to respond to a good idea.

The United States, however, compared to some other countries, is more centralized in some respects than you might think, if you compare it with Germany, for example, which has much heavier involvement from the equivalent of our States, in partnership with the central government, both for funding and for conducting research.

German science policy is much more tied to general economic objectives. They have fewer sort of grand national prestige projects than we do. So if you look at the total R&D budget, the United States devotes a great deal of it to centralized national purposes, and is often characterized that way by scholars. The Japanese have sort of a half and half system.

Prof. Henry Ergas has in fact categorized national science policies according to whether they are diffusion-oriented or centrally national-project oriented. He characterizes the United States in that category, whereas, he would characterize Germany, and to some extent France, and to some extent Japan, in a diffusion-oriented economy.

I think the truth is that our lack of rationality in our pluralistic system can be fixed without great sacrifice of the diversity, which is its strength.

The problem that I see is that the government finds it difficult to look at the whole R&D enterprise in a holistic way. From a point of view of valuation I am in favor of trying to understand the technology system.

How do we generate technology? How does it diffuse? Who uses it? What determines the effectiveness in which they use it? If we understood that, looking at the whole economy—defense and nondefense, public and private—then I think we could devise policies that caused the pluralistic implementation to be more effective.

We also need to look at the institutional structure which, it seems to me, is not appropriate. And this gives me a chance to pick up on Senator Domenici's point with which I 100 percent agree; the Department of Energy was the unnamed agency that I obliquely referred to with suggesting some reorganization might be needed. It has immense technical capability through its national laboratories. It has a fine tradition in science as well as in large-scale projects. It is missioned under the National Technology Transfer Act of 1986, the amendments to the Stephenson-Wydler Act, to work with industry to see if there is not maybe some contribution their technology could make. But I can tell you, I do not think anything is going to come of that because the headquarters feels obligated to Congress to interpret their mission narrowly.

So I think the challenge is, could we put some more players into the field of looking at the broad technology base issue in this country, and not always looking at problems from the definition of a near-term national crisis—whether it be a health crisis of a particular disease in one case or an energy crisis associated with this year's price of oil in the other.

Chairman CHILES. The administration has said that in most areas of R&D, the proper role of government is basic research rather than application. And I think that is something that the Congress has basically gone along with, too. But at the same time, our competitors are investing heavily in applications, especially high-risk research that private industry is unwilling to fund. In Japan and in Europe, more than 50 percent of government expenditures on research and development go to a specific economic objective—agriculture, energy, industry, and national resources. The U.S. figure has historically been closer to 30 percent, but over recent years it seems, as a percent, even that has dropped quite drastically.

What effect does this difference in targeting have for economic competitiveness in our country versus our competitors? Should there be some boundary that we should look at there, Dr. Buchsbaum?

Dr. BUCHSBAUM. You are raising a very key issue, Mr. Chairman. To me it is not an either/or proposition. I think the government ought to continue to be the patron of basic research, as it has been in the past. It is absolutely mandatory. But I do believe that the government, without really trying to do industry's job, should act as a catalyst, if you will, as a matchmaker, and as a pusher, if you will, in those areas where it sees important new developments.

Chairman CHILES. Would you say SEMATECH is an experiment or a movement in that direction?

Dr. BUCHSBAUM. SEMATECH is a good experiment in that direction. I have spent quite a bit of time with an OSTP panel looking at it, and this is a good experiment. The jury is still out as to whether it is going to be useful.

Let me give you another example where I think the government could play a role. We in this country have lost our competitive position in consumer electronics. We do not make radios; we do not make VCR's; we do not make televisions. What is the next big move in this field?

Well, many people believe it is going to be high-definition TV. Now, that is a very complex terminal. It has many implications for industry, including my own, and yet the American industry is trashing about in this activity.

The government ought to find a way—frankly, I am not sure how yet, but the government ought to try to find a way to get industry in this country together.

Chairman CHILES. I think you could get a lot of people interested in that if they knew a direction in which to go. I read about that a while back, and I have talked about it with several people. They all say, you know, why don't we move into that? But nobody knows what the need is or how we should move.

Dr. BUCHSBAUM. Well, this government ought to think through how it might stimulate industry to get together.

Chairman CHILES. But I do not think this government is going to think through that if Bell and some other people do not help us think through that.

Dr. BUCHSBAUM. Well, I agree with you there.

Chairman CHILES. Yes.

Dr. **Buchsbaum**. Industry has a role to play. Industry in this country is not well organized to act in concert.

Chairman **Chiles**. Right.

Dr. **Buchsbaum**. I think the most important thing about the SEMATECH experiment is that for the first time, I believe, two different segments of the industry got together and started talking to each other.

Chairman **Chiles**. Right.

Dr. **Buchsbaum**. That itself is much more valuable. It may turn out to be more valuable than the SEMATECH project in itself.

Chairman **Chiles**. I think it may. But, it was not government that decided we need to initiate something there. It was some of those companies themselves who said here we are going to the next generation; we are going to get our pants beat off. We cannot do it individually. And even when they began to get together, they said, you know, we need some help.

Of course, at the same time, the Defense Department was of a mind to say here we are going to be totally dependent if we do not have a strong industry.

Dr. **Buchsbaum**. That initiative taken by the Defense Science Board on behalf of the Department of Defense was a very important initiative.

Chairman **Chiles**. I think so.

Dr. **Buchsbaum**. And it is initiatives of this sort coming out of particular agencies——

Chairman **Chiles**. Yes; that initiative may not come in the high-fidelity TV you are talking about. That might not ring a defense bell, you know.

Dr. **Buchsbaum**. It will not, but it has to ring some other bell.

Chairman **Chiles**. Yes.

Dr. Branscomb?

Dr. **Branscomb**. May I go back to the premise of your question? Because you noted that the administration defines as quite appropriate investments in basic research.

Chairman **Chiles**. Yes.

Dr. **Branscomb**. We all agree with that. There is no question. That is not challenged on either side of the opinions about the government's economic role.

What it leaves unsaid is what is important. The implication is we do not have a good language that we all understand, that we can all use to describe the kinds of work that are appropriate for the government to do with industry as a partner and the kinds that are not.

Chairman **Chiles**. Right.

Dr. **Branscomb**. And I insist that this language that we have been given, the science scholars who study the sociology of science and who are interested in the motives of the investigator and not the motives of the investor, produces great confusion. It forces us into saying, well, there is basic science; and then whatever is not basic must be applied. And applied is problem-solving, and we know we do not solve industry's problems. They solve their own problems because they have got to understand the market and the price conditions in which those problems arise.

But if you look at the Defense Department's categorization, 6.1, 6.2, 6.3 (a) and (b), et cetera., you will find that although they occasionally slip into putting things in buckets where they do not belong—that is a game that they could hardly resist, I suppose—nevertheless, the definitions in those categories are much more meaningful.

I recently had a conversation with Mr. Graham, the science adviser—it took place in a public meeting so I assume he will not mind my referring to it—in which he, in effect, agreed with me that if you used the Defense Department nomenclature, it is perfectly reasonable for the Federal Government to fund, with the intent of helping industry through appropriate agencies, not just defense, work which would be characterized, if it were in defense, as 6.1, 6.2, or 6.3(a) and not appropriate to fund 6.3(b) and 6.4, .5, and .6. And I think we could all agree on that, too, if we just developed the language to do it.

So I urge the committee to go back and look at the GAO reports that they have been writing. It is not the last word on how to address this issue. But we need desperately a language that we can all get comfortable with that does not raise the animosities and the concerns, which are serious and well-motivated concerns, about industrial policy on the part of the business community when we stray in our language across the boundary and invoke these other things.

Secondly, let me agree with both of you and with Sol on the importance of the government agencies playing a catalytic role. When I was chairman of the National Science Board, we were quite eager to get the NSF into the position where, if there was a problem that it saw, an opportunity or a problem of concern to industry, it might not be appropriate for NSF to have a financed research activity in it, but perfectly appropriate for NSF to convene a meeting and invite voluntarily the technical leaders of the industry to come in and talk about it and see if they couldn't do some matchmaking.

I will just stop by noting that, after working for many years at the Department of Commerce, looking back on the department's role in the past, and remembering now the recent proposal for changing it to a Department of International Trade and Industry, DITI, or the contemporary proposal of Senator Glenn and others, your committee, in fact, in S. 1233, I believe the best of Secretary of Commerce we ever had was Herbert Hoover from the point of view of technology. He was an engineer. He took the Bureau of Standards seriously, but he also went directly to the captains of industry, and he said, look, you folks owe it to this Nation to be more productive and be more innovative. And here is what we expect you to do and let us do it.

Now, he is not the only Secretary ever to do that, but he took the technology side of that mission quite seriously. I think once we get comfortable, there is a legitimate Federal role of concern about the performance of commercial companies in international competition, their technological performance. Then we can legitimize this catalytic role and also legitimize the role of the support of certain categories of engineering research and education that are not today significantly met by NSF or by any other agency.

Dr. **Omenn**. This last point is extremely important, Senator Chiles. There is a difference of view in our country about the role of government. It is commonplace for people, especially in the business sector, to bash the government, to call us all bureaucrats if we are working in the government, even temporarily. And it runs counter to rather good working relationships in the scientific community, including engineers and scientists in the private sector, the government, and universities. It is a pity. It reflects a time, still dominating, I would say, when out competition was judged to be within our borders.

The effort to mobilize private and public sectors to identify generic areas of applied research as well as basic research that are important in key industrial sectors has not yet been well accepted. In the tail end of the Carter years, there were initiatives launched in generic research for the automotive industry, for ocean drilling, and a couple of other areas. They were all summarily discarded in 1981.

SEMATECH is a terrific initiative. I hope it will be successful. There are some other consortium efforts in semiconductors and electronics areas because people observed, as you just did, that we were really losing out and got a little desperate.

I think that Lew Branscomb's emphasis several times on the Department of Commerce is quite telling here. It may not be so appropriate to ask the NSF or the basic research components of other agencies to go make these bridges. Perhaps those agencies which have the responsibility, the mission to relate to the economy and to the viability and productivity of our private sector, should be made to understand that they have a responsibility to mobilize resources from the scientific community; and that includes the social science scientific community. The questions about productivity and motivation for our work force might benefit from applications of what we have learned lately in cognitive sciences, human behavior, and decision-making.

It is a pity that the Japanese had to discover an American named Demming; now some corporations in this country swear by his associates to teamwork and emphasis on quality.

There is a lot to be done to enhance our productivity and our competitiveness that would call upon all agencies of government, not just the science and basic science agencies themselves. The same goes for our universities. In the university, we talk about university-industry relationships and economic development. The discussions always focus on technology and science, which is great up to a point. It is not sufficient. It should involve the business schools and the law schools and the other components of the university which could contribute tremendously, especially in the intermediate and short term.

Dr. **Buchsbaum**. Could I just make a short comment on Lew's point about a common language and understanding? It would be very useful to have such a thing—probably very difficult, if not impossibly—simply because different institutions are motivated by different things. What is basic research to one individual may be applied research or development to somebody else.

I remember during the decade of the 1970's, my company spent enormous sums on applied research and exploratory development having to do with optical communications, optical fibers and such. We called it applied research and exploratory development because we had a specific goal in mind to apply this new technology to communications.

Similar work done in universities was called basic research, and our scientists and university scientists published work side by side in the same learned journals. And if the Department of Defense chooses to give to a university applied research or even development, the researcher there would call it basic research because that is how he or she looks at it.

So while common language and understanding is useful, I am not sure it is absolutely necessary to partition the activities, because, as I say, it is in the eyes of the beholder.

The important thing to look out for, are the right fields covered and covered adequately in the country? And I think the government has a role to play in determining which fields of science and technology, as was said here numerable times this morning, we need to excel in.

Chairman CHILES. As we look at the future of the science in our country, of course, one of those key questions is how are we going to train our next generation of scientists and engineers. We have all seen the horrible statistics out there. We all cite them. I do it too often, perhaps.

You mention in your statement, Dr. Branscomb, doing something about the lab facilities and making them more attractive and all. What should we be doing in this next generation to see that we get the scientists and the mathematicians?

I have jumped on the chairman of our Board of Regents about why 50 percent of our graduate students are foreign-born, and asked him: Are we depriving any Florida student a place? And he says absolutely not; we do not have the qualified students to take those places. We are just trying to operate more effectively and efficiently and pay the professor by having a full class and those kind of things.

But when I see that we, through State and Federal dollars, are picking up a large part of the tab of that tuition, it is not totally paid. It is tremendously subsidized. I find it the height of folly that we are subsidizing Japanese engineering students and scientists to go back and beat our britches off, and that we are not doing something to see that we have the qualified young people taking those courses.

Dr. OMENN. This is a severe problem, and it is getting worse. In fact, right here at the Bethesda campus of the NIH, in the Federal laboratories intramural program, foreign scientists are coming to the visiting scientist slots. NIH lacks sufficient positions to hire people, but they can accept visitors. The competitor nations are sending outstanding young people to learn our technologies.

I think the heart of the problem, though, is with our pre-college education and general social views. I did a little piece for the AAAS magazine, Science 1983 back then, on which they put the title "Why youngsters are afraid of becoming scientists." The gist of it was that for a number of years I had been asking people to name a scientist, name a doctor, name a lawyer. People commonly name a doctor that they go to or know someone in the family goes to; similarly for a lawyer, someone in the neighborhood or someone that they have met through school. But the overwhelming response in naming a scientist was Einstein.

Einstein is not a model which most kids can identify. Despite the brilliance and contributions of the man, this association reinforces that notion that a kid who is really bright in math and sciences is sort of a weirdo or genius, terms which somehow connote negatively. It is unfortunate, and it is real.

[The article referred to follows:]

[From Science 83, September 1983]

Are Kids Afraid To Become Scientists?

Back-to-school themes this year carry more public and political concern about the quality of math and science education than at any time since the post-*Sputnik* alarm of 25 years ago.

The National Academy of Sciences and the National Academy of Engineering sent the summary of a recent convocation on mathematics and science education to all 16,000 school districts in the country. Congress is searching for money and better strategies to enhance science and math teaching. Leaders in education, business, labor, and both major political stress the need for "technical literacy" for everyone. Analyses of international competition stress that our children are poorly prepared in science and math compared to youngsters in Japan, the Soviet Union, and Europe.

Why do more than half of our high school students drop out of science and math by the 10th grade? What do young people—and their parents and teachers—think about science and technology, about scientists and engineers? How do they form their views? I believe most students hold two overwhelming feelings about science and technology: awe and fear. They are awed by the wealth of scientific knowledge and by useful technologies in industry, medicine, and agriculture. They are awed by the immense challenge of understanding nature. But they fear the difficulty of math and science courses, and, more important, they fear the uses and misuses of certain technologies, from pesticides to nuclear weapons. Making the awe more awesome and the fear more fearsome is the growing isolation felt by many people who see themselves as hopelessly outside the world of technology.

Ask a youngster to name a scientist. He or she is likely to cite only Einstein. Many respond with a general description of scientists as "geniuses" or "weirdos," people with whom they have little hope or no desire of identifying. Seldom do students name a neighbor, a friend's parent, or a teacher. These people, close at hand, are not recognized in their scientific roles. They don't fit the sterotypes as brilliant problem-solvers grappling heroically with the unknowns of nature or as evil tampers with the future of the planet.

There are several ways we could build more realistic images. Popular conceptions of careers have been etched by television for a generation. TV producers and writers could help by having a few characters in popular shows just happen to be scientists or engineers. Lead roles need not be built around these vocations. Science writers could provide more realistic views of how science is done and not focus only on "breakthroughs" that make science seem remote from daily life. Finally, we scientists and engineers can help by sharing more of ourselves with the public and the schools so that we are appreciated as whole people and as scientists at the same time. Too many kids simply do not realize that scientists and engineers live "regular" lives.

I don't want to trivialize science, and I'm not suggesting that every youngster would make a good scientist. We surely want to attract many of the brightest students into scientific and technological careers, but we'd best be certain that a reasonable share go into other fields. We must see that as many students as possible graduate with the skills and experiences to participate confidently in this increasingly technological society. We need a work force that can work "smarter" and not just harder to improve productivity in all fields. And we need a public prepared to bring balanced judgment to hard choices about the uses and limits of our technological prowess.—*Gilbert S. Omenn, dean of the School of Public Health and Community Medicine at the University of Washington and member of Science 83's editorial advisory board.*

Dr. Omenn. We have another problem which Mr. Bloch has identified extensively in reports from NSF in which he has highlighted the demography of our Nation. Since the baby boom population has been moving through, we face a decline in the population that has traditionally gone to college. We will have an increasing percentage of minorities, increasing percentage of female minorities in the 18–29 age group. It is essential that we do much better in attracting these young people to take good science and math courses, first of all, in junior high school and high school, and to at least consider careers that will use math and science in college and beyond.

A decade ago, the Federal Government launched, through the efforts of seven different R&D agencies, a small program which generated about 2,000 summer jobs, which we called Minority Research Apprenticeships. I am pleased to tell you that the present administration has continued these opportunities; we have such programs in my university. It is a chance to get kids while they are still in high school to have a positive experience working in the lab. The least we would like to come from it is that they think positively about science. It is very important the people who are not going into scientific and engineering careers think positively about science, for all the reasons we are talking about today, and have some appreciation of science as an investment in their future.

But our real hope is that we will recruit a significant number of these people, and they will become role models in their communities. We need their participation to fill some of these places in our universities, both in college courses and in the graduate schools and then in the faculties with our own people. It is a long-range view, and it is the only view that is likely to work.

In the shorter term, we do need better facilities; we do need to have the cutting edge in universities. In some engineering fields, the common complaint is that you can get better equipment, better pay, and quite often more exciting work with a bachelor's degree than with a Ph.D. It is quite different from field to field of engineering.

So I think you have highlighted a very broad problem here. The NSF in FY88 is making a special disproportionate effort, I think, as directed in the Congressional appropriation to support pre-college as well as the college level science education programs.

Chairman Chiles. Dr. Branscomb.

Dr. Branscomb. First, could I observe a potential effect of not successfully addressing this issue in having a number of American-born students in our engineering graduate programs not being numerically as large as the foreign-born?

Some of those foreign-born students stay in the United States—and, by the way, I think we should welcome them. They are very bright. If they want to contribute to our society, we should be glad for them to do so. Many of them come from countries where they do not have good opportunities when they go back. Most of them are not Japanese. The Japanese are the minority. They are very, very bright Chinese origin students from Singapore and Hong Kong and Taiwan, as well as Mainland China.

But the defense industry—which as I have mentioned, is 35 percent of the national R&D, so it hires something like 35 percent of the engineers—generally speaking, does not hire foreigners because of security restraints. So they preferentially have to look for the American-born, in which case now you have a competition between the defense industry and the civil industry in which the U.S. citizens are preferentially qualified to be in the defense industry. The result, you might imagine—I have no data to give you a numerical interpretation of this hypothesis—the result might well be an even more disproportionate population of the foreign-born in the commercial jobs than would otherwise be the case.

With respect to what to do about it, my view is there are two basic things to do about it—well, there are three; the third is patience. The first is to try to ensure that we reverse the severe decline in student aid that has been available. I do not know whether in the case of the Florida universities the fact that no Florida kids are being turned down was a student aid-independent question, or whether it was simply a statement of those who have applied we have not turned down any that are qualified.

Chairman CHILES. Doctor, I have got to stop you right there. You said reverse the severe decline in student aid.

Dr. BRANSCOMB. My impression is that fellowship support in American colleges and universities of Federal origin has declined though not as much as the administration had requested since the Congress reversed some of those actions. Am I wrong?

Chairman CHILES. Well, I will be interested in looking at the fellowships. Now, maybe you have qualified it there. But, overall, student aid has been one of the fastest growing areas of the Federal budget. I hear from my university and college presidents every time that it does not increase at the 10 to 12 to 15 percent that they got used to. It built up so fast. But I think part of the problem is where that student aid is going. You know, it can be cosmetology, it can be everything in the world that qualifies for Pell Grants now and for a lot of the student aid. You may be exactly right in your fellowship thing.

Dr. BRANSCOMB. I am focusing on the graduate level, the high tech end of the spectrum.

Chairman CHILES. Right.

Dr. BRANSCOMB. Also the taxability of fellowships has made a big difference.

But the other cure, obviously, has to do with the pre-college education system, which is a very serious difficulty. I think, in fact, there are good plans for addressing it, and many of the States are doing so.

But, finally, let me just note that there is a chicken and egg problem. We have many fine smaller, more practical, mostly baccalaureate-oriented engineering schools in this country, and they have had a good relationship with their local industry over the years. There is a tendency for those schools and the local industry to be a bit behind the power curve when it comes to modern ways of doing industrial engineering.

I think the industry and the schools are waking up simultaneously, and given adequate help to modernize the curriculum of the schools and to get faculty that have some industrial experience in, and on the other side in the factory, in the company, to get some more technologically advanced factory managers, and to begin to recognize the need for higher level skills in the factory. Those two things will reinforce each other, but that is going to take quite a long period of time.

Too much of our R&D system that the Federal Government has been involved with in the past has involved companies like Sol's and my former company, which have great research laboratories that have staffs that look very much like university investigators. Those great corporations with the big central research labs have no difficulty using the Federal investment in the university. But there are hundreds of thousands of companies out there that do need high technology for their product design and manufacturing that do not do research. There is no need for them to do product research. That is not the nature of their business. But they do need engineering modernization.

It is those enterprises that I would like to see take off on a new technology track with the help of the broad base of engineering education in this country, not just the elite.

Dr. BUCHSBAUM. Could I add to the points that were made?

I agree with what was said that the problem has got to be attacked at the roots, which is the precollege level. And I agree that it would be desirable, extremely desirable for the students in public schools and high schools to be properly motivated. But it takes educated teachers to do the motivation. The fact of the matter is that most of our teachers do not know much about science and technology and, therefore, cannot educate them.

Therefore, to say, well, bring in more courses of science and technology into high schools and public schools is throwing words to the wind because there are not the teachers to do that. It is going to take a long time, decades, to fix that problem.

But is there a solution in the nearer term? I believe there might be. I am impressed by the impact a single high school—Bronx High School for Science, I think it is called—has had over the past decades on the scientific enterprise. If you look at the graduates of that high school, where there has been a concentration of teachers who knew and loved science and taught it to high school kids, what these graduates of that high school have produced.

It would be delightful if the State of Florida had one or two high schools for science where it concentrated its faculty that knew and loved science and wanted to teach it to kids, to get the 1 or 2 percent of kids in Florida or Iowa or New Jersey, or whatever, into high schools of that sort.

Dr. OMENN. It actually can be done, based on the example of the High School for Science and Math in Durham, NC.

Dr. BUCHSBAUM. It can be done, and it should be done. Again, the government ought to stimulate and catalyze that kind of an activity in the States and in the cities.

Chairman CHILES. Well, that, I guess, is my question. You are saying it is a decade to change this, but I do not see anybody starting even the clock running for the decade to get the science teachers.

Dr. BUCHSBAUM. It will take several decades to do it on a mass basis, but it is a fraction of a decade to get it done on a concentrated, focused basis.

Chairman **Chiles**. Right. But what I am saying, even on the mass basis, I do not see the initiative starting now to start that clock running on the decade.

Dr. **Omenn**. Some things are happening.

Dr. **Branscomb**. Well, I think that initiative has been taken in many States. I was personally involved as the chairman of a task force of the Carnegie Corporation on a project on teaching as a profession, which, in fact, has produced an education reform plan that was unanimously adopted by the Governors' Association in the summer of 1986. That plan, in fact, has resulted in the creation of a National Board for Professional Teaching Standards, which is now up and running, run by teachers, in fact, seeking some assistance from this body—through another committee, I am sure.

That program, among other things, includes opening up teaching to anybody with a baccalaureate degree in liberal arts, who then gets additional training in how to teach. Many States are now beginning to shift to that, getting away from the undergraduate baccalaureate in education and focusing at the master's level on the teaching skills, and then offering the education courses to undergraduates for those who are majoring in a discipline.

If that takes off, as it seems to be doing in a good many important States, one consequence will be that in the colleges the number of pre-professional majors in a discipline—whether it be English literature, history or chemistry—those pre-professional concentrators in the discipline, the majority of them will be pre-professional teachers. Our college faculties are totally unprepared for that possibility. Once that begins to happen and once they wake up to their responsibilities to deal with these young people who want to be professional level teachers, I think we will see a renaissance in the relationship between the colleges and the primary, middle and high schools. And we will see, indeed, a radical change in the attractiveness of teaching to bright young people and the quality of teachers.

Chairman **Chiles**. You have touched on something else I want to follow up on. When I was in New Mexico, I talked to Dr. L.H. Lapham, who is the president of the New Mexico Institute of Mining and Technology. He told me very little effort is expended in our country on the development of emerging technologies beyond the basic research stage. Particularly, little effort has been placed on commercial production techniques. He was saying small companies suffer disproportionately under this system because they are relatively under-sized or have no research staff at all.

To address this problem, he was talking about having the Federal Government maybe finance some kind of an extension, engineering extension service in order to be the catalyst for getting States to promote that. Similarly, we always talk about Ag extension research. I can tell you that has been a tremendously meaningful thing in my State and in much of the agricultural regions in order to disseminate research.

Our farmers, our grove owners, they believe in the Ag extension research service, and they use it. It is the way that all of the technology moves and all of the new innovation moves and, therefore, engenders the productivity we have seen in a lot of the Ag bases.

He sees this extension service as the first point of approach for an entrepreneur interested in commercializing an original idea that maybe he or she has received from a national lab or any other source, but lacks the ability to really commercialize that or bring it to fruition.

What are your views about that?

Dr. **Branscomb**. The Congress did pass a statute in the 1960's called the State Technical Services Act which was very much modeled—it was passed but never implemented. It was very much modeled on the analogue——

Chairman **Chiles**. Nothing new under the sun, is there?

Dr. **Branscomb**. To the agricultural extension. One reason why it never took off is because that analogy is all right at a general level but not at the specific level. Agriculture has the characteristic that it produces commodities which are more or less the same in the marketplace; and if you help one farmer be more productive, he may make more money than his neighbor, but you have done nothing negative to the neighbor. The price of his product is not affected by one farmer. It is affected by a very large agricultural market.

So, first of all, you do not have the problem of agricultural extension of help to one competitor necessarily having a negative consequence to somebody else. Secondly, the fact that agriculture produces commodities—though it is changing now with modern technology—means that there are more generic research problems that make more sense to be done on a shared basis. The diversity of technical issues facing manufacturers is very great, but I believe very strongly that it is appropriate for the Federal Government to respond to State initiatives that set up programs within the State to provide this kind of help.

I am a director of the Massachusetts Centers of Excellence Corporation, which is one of many devices that the State has for bringing expertise out of the State and private universities to help small businesses, either nascent start-ups or even some that simply need modernizing or would like to be modernized.

The source of technology is not necessarily from a State or Federal laboratory. It might well be from a commercial service. But there is, once again, a marrying there of what the State can do in the area of regional planning and development, with the community doing the zoning. Some State have capital funds they can make available. They have other forms of assistance they can provide. At the State level, you could put a package together which includes technology. And if the Federal Government has a contribution to make, it can be plugged in there as a response to an initiative that comes out of the companies and out of the States.

In that fashion, I think it can be made to work.

Chairman **Chiles**. Just speaking of the manufacturing process, you were mentioning in your answer to the other question these many, many small engineering schools have not been able to keep up to date. You were mentioning that some of them are doing that now and responding to what is out there in the marketplace or what the need is.

Is there a Federal role for trying to bring them up to date and to try to encourage that? Because we know there is a resource. They are graduating engineers. It is just the ones that are graduating are still doing something under the 1930's or 1940's technology.

Dr. **Branscomb**. I think there is, but it ought to be done in partnership with the States who have that primary educational responsibility to know what the economic strategy of the community is.

Dr. **Omenn**. I think the Federal Government could go a long way to highlight good experiences around the country. Our Federal system can be considered a laboratory of many different and diverse experiments. In fact, there is a 1932 Supreme Court case in which Justice Brandeis described our country as a social experiment in which every individual State could be considered a laboratory for undertaking initiatives that the whole country might be unwilling to adopt as a national trial.

This effort need not necessarily have a big budget input from the Feds. If people were more aware of what is going on, there are many mechanisms of response. Specifically, in the question you began with about the emerging technologies, there are venture capital types in this country and large and small corporations scouring around looking for good advances in technology to make investments. There is a certain problem right now with the stock market shock of October 19, but in general, there are numerous players in this field. And there is a lot of money looking to be invested in such opportunities. I am personally involved in some small companies as well as a major corporation which has made such investments.

Secondly, with regard to the manufacturing process, one of my duties here in D.C. is to chair the Committee on Science, Engineering and Public Policy of the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, the Academy complex. Recently, especially stimulated by Ralph Gomory of IBM, the National Academy of Engineering and COSEPUP have been emphasing the concept of "reduction to practice."

It is similar to what several have said already, including you, Senator, that we need to speed up our process of innovation, to bring into the manufacturing processes sometimes rather small, incremental advances which take the marketability of the product into the next step in the competition. In general, the cycle in this country is too long. Our flexibility in manufacturing is not sufficient. The marriage of many advances—not waiting for breakthroughs, but all the small advances that make the product continue to be commercially successful—is a very much neglected aspect of the competitiveness debate.

With regard to Lew's point about the engineering colleges and the industrial experience for bachelors as well as advanced students in engineering, I would like to draw an analogy to what we do in medicine. No one would think of preparing a medical student to be a doctor strictly in an academic environment without the teaching hospital. Teaching hospitals now are quite a diverse array, including veterans' hospitals and community hospitals, as well as the big research hospitals.

I think this concept has been lacking in most engineering education. There are some, of course, which have work-study programs, and they are rather successful, I believe. However, even the big universities which pride themselves on academically-focused engineering education would do well to try to build the counterpart to the teaching hospital.

[The following article was submitted by Dr. Omenn:]

[From the Science Policy, March 19, 1982]

ENGINEERING: LESSONS FROM MEDICAL SCHOOLS

The challenges that exist in engineering education and engineering research are widely recognized. National sources of funding and of fellowships are critical. However, universities and their schools of engineering also need to look within to meet these challenges. The crux of the crisis may well be the awkward status of many engineering schools as hybrids more like academic departments than like professional schools.

From the vantage points of the Office of Science and Technology Policy and the Office of Management and Budget during the Carter years, I noted significant lessons for engineering from recent restructuring of medical schools.

No one would consider a modern medical school education complete without experience in hospital and clinic settings to complement academic work. The same should apply to advanced engineering education and experience in industrial research settings. Such arrangements widen the curriculum to include practical problem-solving, which in turn often reveals gaps in basic knowledge. Providing such options would counteract the criticism that many graduate engineering programs are too narrow or too theoretical, would stimulate industrial support, and would attract advanced students.

Most medical schools have full-time academic faculty members who work in research laboratories established or expanded at affiliated hospitals. Some of these laboratories are distant geographically or professionally from the schools, and faculty have often viewed these situations as less desirable. Nevertheless, the creative development of new ties and useful facilities has made it feasible for university medical centers to build up new programs and attract faculty who are capable of competing for outside support.

Some engineering faculty members already perform research in industrial laboratories, research institutes, or contract research groups outside the academic structure. These extra-academic arrangements provide salary supplements, special research challenges, and access to better equipment, while ensuring adequate protection of proprietary interests. More opportunities may exist for such arrangements, and they should be assessed as an alternative to losing or failing to recruit faculty members.

Universities will have to recognize and tolerate the professional status and incomes of such engineering faculty. In turn, faculty with off-campus activities must honor their primary commitments and fulfill their responsibilities within the university community. As most medical school faculty can testify, this scheme is a formula for long hours and hectic schedules.

In most medical schools, selected full-time practitioners form a "clinicial faculty" who supplement the teaching of the full-time academic faculty and give students a wider experience in medical training and practice. The clinical faculty typically exchange their time and access to their patients for the prestige and stimulation of the university medical center affiliation.

The potential for a counterpart of the clinical faculty in engineering is quite real. The stronger the academic faculty, the more likely they will be to interact comfortably with professionals outside the academic community. In a time when the popularity of engineering fields and the teaching loads are changing rapidly, schools should value the flexibility to expand teaching without making long-term academic commitments.

Schools of engineering vary in their interests, circumstances, traditions, and geographic proximity to industrial or government laboratories. Each school must clarify its goals and its preferred mix of theoretical and applied work. Medical schools were in similarly diverse situations when they devised clinical relationships and expanded research. Institutional planning, not just national leadership, is needed to restructure many engineering schools so that academic and professional objectives can be addressed and both kinds of activities can flourish.—GILBERT S. OMENN, *Science Policy Fellow.*

Chairman CHILES. I thank you again, each of you, for appearing here today. I could spend the rest of the day and the afternoon asking you further questions. It is just a most interesting subject and one, of course, that is so critical to our country. Obviously, there are so many of us in the Congress that feel like we want to get into this, and yet when you look at our jurisdictions and see how they cross, it is pretty obvious, again, this is an area in which the administration or the President has to lead. Hopefully, we will get some real leadership. We critically need it in the next administration.

But your ideas are very, very valuable to us. I hope you will continue to give them to this committee and to others of us in the Congress. We thank you very, very much for your being here today.

[Whereupon, at 12:25 p.m., the committee adjourned subject to the call of the Chair.]

WRITTEN QUESTIONS FROM SENATOR SASSER TO DR. BRANSCOMB AND DR. OMENN AND THE RESPONSES

Question 1. What do you expect to be the short- and long-term consequences of the emphasis that is being placed on military research at the expense of civilian research?

Question 2. What do you think is an appropriate proportion of funding to allocate to military, as opposed to civilian, science and technology funding?

Question 3. What do you think is the appropriate balance between educational funding for science and technology and construction of large facilities? Do you think we can be more efficient in selecting our bigger projects to maximize individual participation?

Question 4. Do you think it is appropriate for the National Science Foundation to move away from individual-oriented funding in favor of "bigger" science? Don't you think it is critical for us to encourage the development of individuals in order to remain competitive in world markets?

Response From Dr. Branscomb

Answer 1. The question implies that increases in military R&D result in decreases in civilian R&D. The extent to which this is true is not known, for the following reasons:

1. There is no consolidated Federal R&D budget, except after the fact. Thus military and civil Federal R&D expenditures are not explicitly traded off against one another, but against non-R&D expenditures of each agency. However, Gramm-Rudman does place limits on total expenditures, and R&D is a large portion of the "controllable" part of the Federal budget, some estimate as large as 25 percent. To that extent, devoting 70 percent of the Federal R&D budget to military purposes may exact an opportunity cost for civil R&D appropriations.

2. Federal defense-related R&D expenditures represent about 35 percent of national R&D. The other 65 percent (50 percent private industry, 15 percent nondefense Federal) is not all "civil", however. An unknown amount of private industry resource is invested in preparing companies to compete for military procurement. If one counts IR&D and Bid Propsal funds, this is a significant, if unquantified amount. Increases in defense procurement will draw more heaviy on these private resources, which otherwise might have been invested in "civil" products.

3. The defense department devotes some part of its R&D investment in what it calls the "defense technology base". Budget items 6.1, 6.2 and 6.3A are taken to comprise this investment. Probably most of 6.1, much of 6.2 and perhaps some of 6.3A actually contribute to commercial capability to compete in civil markets, especially that portion of 6.1 invested in university research. However, the Defense Department has dramatically increased its total expense in the last 8 years and has not increased its 6.1 investment accordingly. Also the entire SDI program is called 6.3A, and much of this is probably of very limited near term value to commercial companies. There is no way to quantify this contribution of DOD to civil competitiveness.

Beyond that, it can be said that in the short term, the size and competence of the national R&D capability is inelastic to changes in demand. It takes 4 to 8 years to attract and train scientists and engineers. Thus there probably is some diversion of scientists and engineers from civil to military work, when military R&D budgets grow, an effect that is exacerbated by the fact that defense industry pay scales may be higher, that the scarce pool of U.S. citizens in the postgraduate engineering population is selectively recruited by defense industry leaving th foreign students for civil companies, and the skills most needed by defense industry (advanced materials, computer hardware and software, microelectronics) are also the key skills for all "high-tech" industry except genetic engineering.

From the long-term point of view, it is probably true that there are three effects:

(a) The "spin-off" from defense R&D is in total small compared to the technology value the same investment, made directly in areas of direct interest to civil companies. However, it varies dramatically by field and by industry. Jet engine technology, for example, appears to be an area where defense and private R&D investments are quite synergistic. Overall, it is safest to assume that in the long term the defense R&D increases the total technical activity in the United States, but that civil technology benefits more from the results of scale economies (larger terminal support industry, more universities with research, larger national laboratories, more attractive career options for scientists and engineers) than it does from any specific technology developed under military sponsorship.

(b) A second, more subtle long-term effect, again not quantified in any studies, may be quite important. The character of defense (and space and much energy) R&D is markedly different from civil commerical R&D. Generally speaking, military R&D seeks to maximize function without regard for cost, pays little attention to high-volume manufacturability, accepts long delays between initiating R&D and final deployment. People trained in this environment are considered by many corporate executives to be poorly trained for the highly cost-competitive, market sensitive engineering required for the civil market.

The strongest relative advantage Japanese companies have over most U.S. companies is better cost and quality discipline in high volume manufacturing. Few U.S. engineering schools have emphasized these skills in the past, although the turnaround has begun. The Defense Department's dominance (about 60 percent) of funding of academic engineering research probably contributes to the bias of U.S. engineering education away from using technology to decrease costs and increase quality in production and into careers in high-function R&D.

4. Even in the long term, the defense demand on technical manpower may encounter an inelastic supply, since the age cohort of college freshmen in the mid-1990s is expected to drop 30 to 40 percent from today's levels. Thus there may be an absolute shortage of potential scientists and engineers, which can only be overcome if larger percentage of able students chose technical careers and we incorporate all the qualified women and minorities in these opportunities. The demography is expected to recover by 2005, but by addition of minorities, not white males. Neither K-12 nor higher education is positioned to respond adequately.

Answer 2. First, as I said in answer to question 1 and in my testimony, there is no Federal R&D budget trade-off before the fact. It is therefore difficult to give the question operational meaning.

Second, one must separate out the different parts of science and technology activities. Every agency should invest in the nation's knowledge and human resource base, at least in proportion as that agency's mission draws upon that capability. Thus, since military development represents 70 percent of the government's total R&D, a reasonable first approximation is that defense, and defense-related agencies should invest in 6.1 research amounts comparable to 70 percent of total Federal basic research. It is well below this today.

Regarding development expenditures, they should be judged by cost-benefit analysis in relation to agency mission, not some abstract notion of equitable distribution across agencies or industries. However, I personally believe that our defense program is unreasonably expensive. The strategy focuses excessively on highly complex weapons systems, sometimes of dubious value, and almost always of such cost that we can afford too few of each item.

Next, we should not assume that defense R&D makes other than a neutral contribution to civil competitiveness. As noted above, the effect is probably negative in some industries, positive in others. Therefore we should constrain defense technology to those investments required for defense, and not attempt to use DOD as a surrogate agency for an industrial policy. By the same token, the Federal Government's nondefense agencies concern the Nation's general technical health—NSF, NBS, NIH, parts of DOE, NASA, and other agencies need increased investment in the scientific and education base.

The net effect of such policies would result in a shift of Federal funds from 70-30 defense to nondefense toward a ratio that is more nearly equal.

Answer 3. Again, this is not a budget trade-off that is actually made, either in OMB or in the appropriation subcommittees, with certain exceptions. When it can be made, I have little doubt that educational investments are consistently underfunded compared with "megaprojects", by which I mean programs whose 10-year costs are in the billions of dollars. The capital investments for scientific facilities like telescopes, oceanographic ships, small-to-middle sized accelerators, unmanned space observatories are generally very carefully balanced with the investments for the university researchers who are going use these facilities. In fact, I think the United States generally *underfunds* capital equipment and overinvests in salaries for basic research in science, relatively speaking. However the superconducting supercollider is at the margin on this point, and as a result it has produced a debate in the science community as to its affordability—if the budget is in fact traded off against "small" science.

One solution is a much more serious effort at international cooperation in the establishment, financing and operation of megaprojects, getting away from the chauvinistic nationalism that motivates so many of them, and reducing their cost without materially affecting their value to Americans.

Answer 4. Yes, I do. First in the sense described above. NSF optical astronomy is in serious trouble, and lack of support for the National Optical Observatory threatens the ability of the "small" astronomers to work. By "small" in this case, I mean those astronomers not so lucky as to work at Cal Tech or the University of California, which is building the private Keck Telescope. NSF must provide national facilities so all American scientists who deserve to work can.

The second sense of your question is, should NSF move to create more inter-disciplinary or multidisciplinary research centers. Yes they should, because:

a) The most rapid progress in pure science is being made at the boundaries between multiple disciplines. Universities have to be able to put synergistic groups of people together. (Example: Brain, mind research).

b) The NSF has not had the funds to support engineering research at anything like the needed level. This has contributed in no small measure to the U.S. competitiveness problem. Building up engineering calls for engineering research centers, because the kind of engineering most needed is, again, multidisciplinary.

c) To insure that the government's research investment reaches the hands of industry, so that it can be put to work creating jobs and wealth, some expansion of university-industry collaborative work is needed. Science and technology centers are an effective way to do this.

d) Centers at universities when well managed are also a good way to fund individual research, as proven by the excellent track record of the Materials Research Centers, and the Joint Institute for Laboratory Astrophysics. In fact, they are probably a better mechanism than the individual competitive grant fot the young scientists who have not yet established a publicly visible track record.

What is needed is balance. I think Mr. Bloch has struck that balance very well. But the Congress will have to fund the President's budget proposal, doubling NSF in 5 years, to make that possible in the future.

RESPONSES FROM DR. OMENN

Answer 1. I expect the consequences of our disproportionate investment in military research to be severe. Our international competitors are cheerily depending upon U.S. military R&D, security umbrellas, and American troops far from home to defend them, while they invest aggressively in the R&D to undermine our national security through global economic competition.

The long-standing notion that military and space programs have enormous spinoff for civilian technologies is no longer correct (and was probably overstated, anyway). In January 1987 the Committee on Science, Engineering and Public Policy (COSEPUP) of the NAS/NAE/IOM issued a major report entitled "Balancing the National Interest: U.S. National Security Export Controls and Global Economic Competition". The panel chaired by General Lew Allen concluded firmly that for dual technologies it is now the case that the military more often benefits from civilian R&D than the reverse. We are shooting ourselves in the proverbial foot by undercutting our civilian technological competitiveness (both by underinvesting in R&D and by putting up such trade barriers as our DOD-dominated export controls scheme).

There is a strong impression, held by such experienced observers as Simon Ramo, that the rapid build-up of military R&D has a markedly inflationary effect on salaries and benefits for engineers, scientists, and technical support personnel, driving up costs of civilian R&D, including both industrial and university-based R&D. According to the New York Times in 1985, college placement officers reported that starting pay was increasing by 8 to 12 percent per year during the military R&D buildup (but was expected to increase at only 3 percent per year post-1985). A January 1988 paper by Frank Lichtenberg of the Graduate School of Business at Columbia University concludes not only that past military R&D has made a negligible contribution to U.S. economic performance, but also that the current disproporationate investment in military R&D (and particularly SDI) will crowd out civilian R&D and will undermine our competitiveness. A Lichtenberg study at the industry and firm level of Federal and company employment of R&D scientists and engineers showed a strong negative correlation: an increase of 10 in the number of federally funded R&D scientists and engineers would be accompanied by an average reduction of 3 company-funded R&D scientists and engineers. He also reported that firms tend to increase private R&D by 86 cents for each $1 increase in government (largely DOD)-funded competitive R&D contract awards, but decrease private R&D by $2.11 for each $1 of noncompetitive R&D awards; since noncompetitive procurement accounts for about two-thirds of the dollars, the net effect is negative at −48 cents/$1 of R&D funding.

There is also a well-recognized phenomenon that university undergraduates and graduate students follow the "Willie Sutton principle" of going where the money is (and where the hot technologies seem to be). Therefore, big shifts of R&D funding, especially in industry, tend to attract a cohort of several classes of university students. Some will still be completing their studies when the funding has shifted elsewhere . . . with predictable frustration.

The crucial issues are proportion of funding and rate of change, rather than level of funding, of course. During the Reagan years the ratio of military to total Federal R&D has shifted from 48 percent in fiscal year 1980 to 70 percent in fiscal year 1986.

Another indicator is the proportion of GNP per capita invested in civilian R&D for our country and our economic competitors. Data from 1983 indicate that the United States, and United Kingdom, France, Japan, and West Germany all expend about 2.5 percent of GNP on R&D. Unfortunately, the first three commit 25 percent or more to military R&D, while Japan and Germany reserve nearly the full effort for civilian objectives. Our position has deteriorated since 1983.

There can be little doubt that the consequences are serious both in short-term and the longterm.

Answer 2. As I stated in my prepared testimony, we need to examine R&D budgets within the missions of the major mission agencies, including DOD, not just across R&D. Also, we must recognize some major distortions that result from big construction projects being classified as R&D (generally D) and from inclusion in the non-DOD budget of certain military or military support programs (notably in NASA and in DOE).

Nevertheless, there has been a stunning shift during the past few years. According to tables prepared by your Senate Budget Committee staff, during the 1980 to 186 period "total civilian" R&D *fell 28 percent* in constant dollars, while "total military" R&D *increased 82 percent*. The ratios changed from 23.5/21.4 (in billions of 1988 dollars) in 1980 to 16.9/39.1 in 1986, or from 52 percent civilian to 30 percent civilian. Of the military R&D, only 5 percent was classified as technology base.

The problem is a combination of deep cuts in some civilian R&D budgets (like energy and environment) and inadequate growth in others (like space science, NSF, health, health care financing) with huge, surely premature investments in some major military programs.

I think we need to aim to return to a 50:50 ratio, both by constraining DOD advanced deployment projects and by increasing civilian investments. I believe the proportions were about 50:50 back in 1965, so the recent experience is quite a departure (though I cannot vouch for the constancy of definitions). Basic research should be protected and possibly even increased within the DOD total.

The congressional fiscal year 1988 appropriation makes good effort to redirect this runaway disproportion of R&D investment. As summarized by the AAAS R&D Budget and Policy Project, the Congress pared $7.0 billion from the President's defense R&D request and added $1.6 billion to the nondefense sector.

Answer 3. Balancing the different components within the R&D sector is no small challenge. It is best such balance be addressed agency-by-agency and field-by-field. I think you question, Senator Sasser, reflects primarily the tradeoffs within budget function 250, including NSF, NASA, and DOE research.

There should be little doubt, as I stressed in my prepared testimony, that the primary Federal responsibility is for basic research and for assuring adequate well-educated personnel for an increasingly technological world. It must be difficult for you and your colleagues to compare anonymous grants for fellowships and individual research projects against such enticing undertakings as the shuttle, the space station, the SSC, and the genome mapping project. All three of us here on the panel have tried to recommend that the real objectives of these large projects be specified, that stringent review of the scientific rational and technological feasibility be assured, and that an experienced and jaundiced eye be cast on generally-overly-optimistic cost estimates. If the main purpose is not scientific, the Congress must find some way to trade a space station, for example, against other nonscientific budget claims, rather than trying to pay for it with huge opportunity costs in the educational and research parts of the science budgets.

In general, I think we need more investment (relatively small amounts) ingraduate fellowships in most scientific fields, including my own area of public health sciences. We need to mount a significant effort to recruit women and minorities into scientific and engineering careers, given the demographics of the next two decades. We need to maintain and further stimulate our well-spring of individual research initiatives. Only then can we ask whether we can afford the megaprojects. In addition, we must be alert to the "out-year" consequences of seemingly modest initial appropriations for the longterm commitments in construction and operating expenditures for the really large projects.

NSF Director Erich Bloch seemed to adopt the same position in his response to the limited fiscal year 1988 appropriation for NSF: maintain the base programs, meet the congressional earmark for science education, and defer funding for the proposed S&T Center grants.

In general, NIH has shared the congressional priority to protect individual research projects first, while seeking to have a balanced program of basic and applied work, small grants and programs project and center grants, and support for training. It is my opinion that larger grants usually get proportionately more searching review for initial funding. Once funded, however, the experience, especially with center grants, has been mixed. The basic-science-oriented National Institute for General Medical Sciences has terminated most of its Center grants, following rigorous peer review. The Cancer Institute has had rigorous reviews, but has found considerable congressional resistance to removal of center grants and center status from the Comprehensive Cancer Centers. Lately, however NIH and the Centers for Disease Control have been overstressed as they seek to maintain and enhance existing high-priority programs, while responding to the AIDS challenge that cannot wait.

In sum, I think the array of popular large projects currently before you could put tremendous adverse stress on the commitment to what you have termed "educational funding". And, yes, I think we must be rigorous in selecting the big projects and we must maximize the scientific content and participation in those projects actually undertaken. On that score, I compliment the particle physics community for the efforts made to enhance the scientific value of the SSC project.

I think the NSF must retain its commitment to individual-oriented funding. At the same time, if NSF can be given the kind of major increase in total funding that has been projected by the administration, it is appropriate that a broader mix of funding vehicles be utilized. NIH provides a useful example.

In the research briefings COSEPUP has organized during the past 6 years at the request of the President's Science Adviser and the NSF, our panels have often recommended that particular important problem areas require teams of researchers from multiple research fields. These teams need not be so big as to warrant a "center grant", but they are surely too big and too expensive to be funded on an individual research grant. Furthermore, they are unlikely to forge the necessary bridges if funded on a set of totally separate individual grants. It is, as you say, critical to encourage the development of individuals; at the same time, we must provide the instruments and collaborations that make those individuals most effective. Team approaches are especially necessary in the applied research areas, but many basic reserch questions now require concepts and methods from more than one discipline or academic department.

NSF has been reaching out to the scientific community and the academy complex for assistance and critique as it has moved ahead with the Engineering Research Centers and now the competition for Science and Technology Centers. The huge response from the university community demonstrates the interest of able groups. The NSF has shown by its decision not to renew all of the initial ERCs that it will be tough on performance reviews. Thus, I hope that Congress can appropriate a sufficient increase for NSF that the base programs can be enhanced and the S&T Centers initiative can be launched. I would urge, however, that no across-the-NSF percentage of funds be reserved for centers; they are more appropriate in some fields than in others, and the latter should not be penalized to support the initiative in unrelated fields.

○